TechLaw, Inc.
Environmental Services Assistance Team
16194 W. 45th Drive, Golden, CO 80403
303-312-7720

Task Order: 32
TDF: DG-220
LIMS: C101104
DCN #: EP8-5-5600
Contract: EP-W-06-33

Rico-Argentine – Surface Water – Nov 2010

Sample Identification
Cross-Reference Information

EPA Sample ID	ESAT LIMS ID
SLDRBG	C101104-01
SLDRBG	C101104-02
SLDRBG	C101104-03
SLDRBG DUP	C101104-04
SLDRBG DUP	C101104-05
SLDRBG DUP	C101104-06
SLDRMZ1a	C101104-07
SLDRMZ1a	C101104-08
SLDRMZ1a	C101104-09
SLDRMZ1b	C101104-10
SLDRMZ1b	C101104-11
SLDRMZ1b	C101104-12
SLDRMZ1c	C101104-13
SLDRMZ1c	C101104-14
SLDRMZ1c	C101104-15
SLDRMZ2	C101104-16
SLDRMZ2	C101104-17
SLDRMZ2	C101104-18
SLPO01	C101104-19
SLPO01	C101104-20
SLPO01	C101104-21
SLPO02	C101104-22
SLPO02	C101104-23
SLPO02	C101104-24
SLPO03	C101104-25
SLPO03	C101104-26
SLPO03	C101104-27

Sample Identification
Cross-Reference Information

EPA Sample ID	ESAT LIMS ID
SLPO04	C101104-28
SLPO04	C101104-29
SLPO04	C101104-30
SLPO05	C101104-31
SLPO05	C101104-32
SLPO05	C101104-33
SLSW01	C101104-34
SLSW01	C101104-35
SLSW01	C101104-36
SLSW02	C101104-37
SLSW02	C101104-38
SLSW02	C101104-39
SLSW03	C101104-40
SLSW03	C101104-41
SLSW03	C101104-42
SLSW04	C101104-43
SLSW04	C101104-44
SLSW04	C101104-45
SLSW05	C101104-46
SLSW05	C101104-47
SLSW05	C101104-48
SLSWDR3	C101104-49
SLSWDR3	C101104-50
SLSWDR3	C101104-51
SLSWDR4	C101104-52
SLSWDR4	C101104-53
SLSWDR4	C101104-54
SLSWDR6	C101104-55
SLSWDR6	C101104-56
SLSWDR6	C101104-57
SLSWDR7b	C101104-58
SLSWDR7b	C101104-59
SLSWDR7b	C101104-60
SLSWDR7c	C101104-61
SLSWDR7c	C101104-62
SLSWDR7c	C101104-63
SLSWFB	C101104-64
SLSWFB	C101104-65
SLSWFB	C101104-66
SLSWP06	C101104-67
SLSWP06	C101104-68
SLSWP06	C101104-69
SLSWP07a	C101104-70

Sample Identification
Cross-Reference Information

EPA Sample ID	ESAT LIMS ID
SLSWP07a	C101104-71
SLSWP07a	C101104-72
SLSWP07b	C101104-73
SLSWP07b	C101104-74
SLSWP07b	C101104-75
SLSWP08	C101104-76
SLSWP08	C101104-77
SLSWP08	C101104-78
SLSWP09	C101104-79
SLSWP09	C101104-80
SLSWP09	C101104-81
SLSWP10	C101104-82
SLSWP10	C101104-83
SLSWP10	C101104-84
SLSWP11	C101104-85
SLSWP11	C101104-86
SLSWP11	C101104-87
SLSWP12	C101104-88
SLSWP12	C101104-89
SLSWP12	C101104-90
SLSWP14	C101104-91
SLSWP14	C101104-92
SLSWP14	C101104-93
SLSWP15	C101104-94
SLSWP15	C101104-95
SLSWP15	C101104-96
SLSWPP	C101104-97
SLSWPP	C101104-98
SLSWPP	C101104-99

C101104

USEPA

DateShipped: 11/18/2010

CarrierName: Hand Delivery

TDF No: DG-220

CHAIN OF CUSTODY RECORD

Site #: 11172010

Contact Name: Jan Christner

Contact Phone: 720.810.0795

No: 11-17-10 Christner

Lab: ESAT - Region 8 Laboratory

Lab Phone: 303.312.7708

Lab #	Sample #	Location	Analyses	Matrix	Collection Method	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SLDRBG-111710	SLDRBG	Alkalinity	Surface Water	Grab	11/17/2010	11:45	1	250 mL poly	4 C	
	SLDRBG-111710	SLDRBG	Total Metals	Surface Water	Grab	11/17/2010	11:45	1	1 L poly	HNO3 pH<2	
	SLDRBG-111710	SLDRBG	Dissolved Metals	Surface Water	Grab	11/17/2010	11:45	1	1 L poly	HNO3 pH<2	
	SLDRBGD-111710	SLDRBG	Alkalinity	Surface Water	Grab	11/17/2010	11:45	1	250 mL poly	4 C	
	SLDRBGD-111710	SLDRBG	Total Metals	Surface Water	Grab	11/17/2010	11:45	1	1 L poly	HNO3 pH<2	
	SLDRBGD-111710	SLDRBG	Dissolved Metals	Surface Water	Grab	11/17/2010	11:45	1	1 L poly	HNO3 pH<2	
	SLDRMZ1a-111710	SLDRMZ1a	Alkalinity	Surface Water	Grab	11/17/2010	14:15	1	250 mL poly	4 C	
	SLDRMZ1a-111710	SLDRMZ1a	Total Metals	Surface Water	Grab	11/17/2010	14:15	1	1 L poly	HNO3 pH<2	
	SLDRMZ1a-111710	SLDRMZ1a	Dissolved Metals	Surface Water	Grab	11/17/2010	14:15	1	1 L poly	HNO3 pH<2	
	SLDRMZ1b-111710	SLDRMZ1b	Alkalinity	Surface Water	Grab	11/17/2010	14:15	1	250 mL poly	4 C	
	SLDRMZ1b-111710	SLDRMZ1b	Total Metals	Surface Water	Grab	11/17/2010	14:15	1	1 L poly	HNO3 pH<2	
	SLDRMZ1b-111710	SLDRMZ1b	Dissolved Metals	Surface Water	Grab	11/17/2010	14:15	1	1 L poly	HNO3 pH<2	
	SLDRMZ1c-111710	SLDRMZ1c	Alkalinity	Surface Water	Grab	11/17/2010	14:15	1	250 mL poly	4 C	
	SLDRMZ1c-111710	SLDRMZ1c	Total Metals	Surface Water	Grab	11/17/2010	14:15	1	1 L poly	HNO3 pH<2	
	SLDRMZ1c-111710	SLDRMZ1c	Dissolved Metals	Surface Water	Grab	11/17/2010	14:15	1	1 L poly	HNO3 pH<2	
	SLDRMZ2-111710	SLDRMZ2	Alkalinity	Surface Water	Grab	11/17/2010	14:05	1	250 mL poly	4 C	
	SLDRMZ2-111710	SLDRMZ2	Total Metals	Surface Water	Grab	11/17/2010	14:05	1	1 L poly	HNO3 pH<2	
	SLDRMZ2-111710	SLDRMZ2	Dissolved Metals	Surface Water	Grab	11/17/2010	14:05	1	1 L poly	HNO3 pH<2	
	SLPO01-111710	SLPO01	Alkalinity	Surface Water	Grab	11/17/2010	11:19	1	250 mL poly	4 C	

Special Instructions:

SAMPLES TRANSFERRED FROM F. Dupp

CHAIN OF CUSTODY # SLSE15D-Seal

✓SLDR1BG

✓SLFW-DRM

✓SLSWDR7C

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
3 coolers	M. Dupp	11/18		11/18/10	14:10						

USEPA
DateShipped: 11/18/2010
CarrierName: Hand Delivery
TDF No: DG-220

CHAIN OF CUSTODY RECORD
Site #: 11172010
Contact Name: Jan Christner
Contact Phone: 720.810.0795

No: 11-17-10 Christner
Lab: ESAT - Region 8 Laboratory
Lab Phone: 303.312.7708

Lab #	Sample #	Location	Analyses	Matrix	Collection Method	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SLPO01-111710	SLPO01	Total Metals	Surface Water	Grab	11/17/2010	11:19	1	1 L poly	none	
	SLPO01-111710	SLPO01	Dissolved Metals	Surface Water	Grab	11/17/2010	11:19	1	1 L poly	none	
	SLPO02-111710	SLPO02	Alkalinity	Surface Water	Grab	11/17/2010	10:48	1	250 mL poly	4 C	
	SLPO02-111710	SLPO02	Total Metals	Surface Water	Grab	11/17/2010	10:48	1	1 L poly	none	
	SLPO02-111710	SLPO02	Dissolved Metals	Surface Water	Grab	11/17/2010	10:48	1	1 L poly	none	
	SLPO03-111710	SLPO03	Alkalinity	Surface Water	Grab	11/17/2010	10:32	1	250 mL poly	4 C	
	SLPO03-111710	SLPO03	Total Metals	Surface Water	Grab	11/17/2010	10:32	1	1 L poly	none	
	SLPO03-111710	SLPO03	Dissolved Metals	Surface Water	Grab	11/17/2010	10:32	1	1 L poly	none	
	SLPO04-111710	SLPO04	Alkalinity	Surface Water	Grab	11/17/2010	10:15	1	250 mL poly	4 C	
	SLPO04-111710	SLPO04	Total Metals	Surface Water	Grab	11/17/2010	10:15	1	1 L poly	none	
	SLPO04-111710	SLPO04	Dissolved Metals	Surface Water	Grab	11/17/2010	10:15	1	1 L poly	none	
	SLPO05-111710	SLPO05	Alkalinity	Surface Water	Grab	11/17/2010	09:16	1	250 mL poly	4 C	
	SLPO05-111710	SLPO05	Total Metals	Surface Water	Grab	11/17/2010	09:16	1	1 L poly	none	
	SLPO05-111710	SLPO05	Dissolved Metals	Surface Water	Grab	11/17/2010	09:16	1	1 L poly	none	
	SLSE02-111710	SLSE02	Metals	Sediment	Grab	11/17/2010	09:35	1	8 oz glass	4 C	Wa Leader
	SLSE04-111710	SLSE04	Metals	Sediment	Grab	11/17/2010	09:41	1	8 oz glass	4 C	C10110 95
	SLSE05-111710	SLSE05	Metals	Sediment	Grab	11/17/2010	09:45	1	8 oz glass	4 C	
	SLSE10-111610	SLSE10	Metals	Sediment	Grab	11/16/2010	15:30	1	8 oz glass	4 C	
	SLSE15-06-111610	SLSE15-06	Metals	Sediment	Grab	11/16/2010	15:20	1	8 oz glass	4 C	

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
				11/18/10	14:10						

USEPA
DateShipped: 11/18/2010
CarrierName: Hand Delivery
TDF No: DG-220

CHAIN OF CUSTODY RECORD
Site #: 11172010
Contact Name: Jan Christner
Contact Phone: 720.810.0795

No: 11-17-10 Christner

Lab: ESAT - Region 8 Laboratory
Lab Phone: 303.312.7708

Lab #	Sample #	Location	Analyses	Matrix	Collection Method	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SLSE15D-06-111610	SLSE15D	Metals	Sediment	Grab	11/16/2010	15:20	1	8 oz glass	4 C	Workload Cancel
	SLSE18-06-111610	SLSE18-06	Metals	Sediment	Grab	11/16/2010	15:00	1	8 oz glass	4 C	
	SLSEPP-06-111610	SLSEPP-06	Metals	Sediment	Grab	11/16/2010	15:05	1	8 oz glass	4 C	
	SLSO01-08-111610	SLSO01-08	Metals	Soil	Grab	11/16/2010	14:45	1	8 oz glass	4 C	
	SLSO02-06-111610	SLSO02-06	Metals	Soil	Grab	11/16/2010	15:25	1	8 oz glass	4 C	
	SLSO13-06-111610	SLSO13-06	Metals	Soil	Grab	11/16/2010	15:10	1	8 oz glass	4 C	
	SLSW01-111710	SLSW01	Alkalinity	Surface Water	Grab	11/17/2010	11:19	1	250 mL poly	4 C	
	SLSW01-111710	SLSW01	Total Metals	Surface Water	Grab	11/17/2010	11:19	1	1 L poly	none	
	SLSW01-111710	SLSW01	Dissolved Metals	Surface Water	Grab	11/17/2010	11:19	1	1 L poly	none	
	SLSW02-111710	SLSW02	Alkalinity	Surface Water	Grab	11/17/2010	10:48	1	250 mL poly	4 C	
	SLSW02-111710	SLSW02	Total Metals	Surface Water	Grab	11/17/2010	10:48	1	1 L poly	none	
	SLSW02-111710	SLSW02	Dissolved Metals	Surface Water	Grab	11/17/2010	10:48	1	1 L poly	none	
	SLSW03-111710	SLSW03	Alkalinity	Surface Water	Grab	11/17/2010	10:10	1	250 mL poly	4 C	
	SLSW03-111710	SLSW03	Total Metals	Surface Water	Grab	11/17/2010	10:10	1	1 L poly	none	
	SLSW03-111710	SLSW03	Dissolved Metals	Surface Water	Grab	11/17/2010	10:10	1	1 L poly	none	
	SLSW04-111710	SLSW04	Alkalinity	Surface Water	Grab	11/17/2010	09:50	1	250 mL poly	4 C	
	SLSW04-111710	SLSW04	Total Metals	Surface Water	Grab	11/17/2010	09:50	1	1 L poly	none	
	SLSW04-111710	SLSW04	Dissolved Metals	Surface Water	Grab	11/17/2010	09:50	1	1 L poly	none	

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
				11/18/10	14:10						

USEPA
DateShipped: 11/18/2010
CarrierName: Hand Delivery
TDF No: DG-220

CHAIN OF CUSTODY RECORD
Site #: 11172010
Contact Name: Jan Christner
Contact Phone: 720.810.0795

No: 11-17-10 Christner

Lab: ESAT - Region 8 Laboratory
Lab Phone: 303.312.7708

Lab #	Sample #	Location	Analyses	Matrix	Collection Method	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SLSW05-111710	SLSW05	Alkalinity	Surface Water	Grab	11/17/2010	11:55	1	250 mL poly	4 C	
	SLSW05-111710	SLSW05	Total Metals	Surface Water	Grab	11/17/2010	11:55	1	1 L poly	none	
	SLSW05-111710	SLSW05	Dissolved Metals	Surface Water	Grab	11/17/2010	11:55	1	1 L poly	none	
	SLSWDR3-111610	SLSWDR3	Alkalinity	Surface Water	Grab	11/16/2010	09:20	1	250 mL poly	4 C	
	SLSWDR3-111610	SLSWDR3	Total Metals	Surface Water	Grab	11/16/2010	09:20	1	1 L poly	HNO3 pH<2	
	SLSWDR3-111610	SLSWDR3	Dissolved Metals	Surface Water	Grab	11/16/2010	09:20	1	1 L poly	HNO3 pH<2	
	SLSWDR4-111610	SLSWDR4	Alkalinity	Surface Water	Grab	11/16/2010	09:30	1	250 mL poly	4 C	
	SLSWDR4-111610	SLSWDR4	Total Metals	Surface Water	Grab	11/16/2010	09:30	1	1 L poly	HNO3 pH<2	
	SLSWDR4-111610	SLSWDR4	Dissolved Metals	Surface Water	Grab	11/16/2010	09:30	1	1 L poly	HNO3 pH<2	
	SLSWDR6-111610	SLSWDR6	Alkalinity	Surface Water	Grab	11/16/2010	14:00	1	250 mL poly	4 C	
	SLSWDR6-111610	SLSWDR6	Total Metals	Surface Water	Grab	11/16/2010	14:00	1	1 L poly	HNO3 pH<2	
	SLSWDR6-111610	SLSWDR6	Dissolved Metals	Surface Water	Grab	11/16/2010	14:00	1	1 L poly	HNO3 pH<2	
	SLSWDR7b-111610	SLSWDR7b	Alkalinity	Surface Water	Grab	11/16/2010	16:50	1	250 mL poly	4 C	
	SLSWDR7b-111610	SLSWDR7b	Total Metals	Surface Water	Grab	11/16/2010	16:50	1	1 L poly	HNO3 pH<2	
	SLSWDR7b-111610	SLSWDR7b	Dissolved Metals	Surface Water	Grab	11/16/2010	16:50	1	1 L poly	HNO3 pH<2	
	SLSWDR7c-111610	SLSWDR7c	Alkalinity	Surface Water	Grab	11/16/2010	16:50	1	250 mL poly	4 C	
	SLSWDR7c-111610	SLSWDR7c	Total Metals	Surface Water	Grab	11/16/2010	16:50	1	1 L poly	HNO3 pH<2	
	SLSWDR7c-111610	SLSWDR7c	Dissolved Metals	Surface Water	Grab	11/16/2010	16:50	1	1 L poly	HNO3 pH<2	
	SLSWFB-111710	SLSWFB	Alkalinity	Surface Water	Grab	11/17/2010	18:00	1	250 mL poly	4 C	

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
				11/16/10	14:10						

USEPA
DateShipped: 11/18/2010
CarrierName: Hand Delivery
TDF No: DG-220

CHAIN OF CUSTODY RECORD
Site #: 11172010
Contact Name: Jan Christner
Contact Phone: 720.810.0795

No: 11-17-10 Christner

Lab: ESAT - Region 8 Laboratory
Lab Phone: 303.312.7708

Lab #	Sample #	Location	Analyses	Matrix	Collection Method	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SLSWFB-111710	SLSWFB	Total Metals	Surface Water	Grab	11/17/2010	18:00	1	250 mL poly	none	
	SLSWFB-111710	SLSWFB	Dissolved Metals	Surface Water	Grab	11/17/2010	18:00	1	250 mL poly	none	
	SLSWP06-111610	SLSWP06	Alkalinity	Surface Water	Grab	11/16/2010	13:45	1	250 mL poly	4 C	
	SLSWP06-111610	SLSWP06	Total Metals	Surface Water	Grab	11/16/2010	13:45	1	1 L poly	HNO3 pH<2	
	SLSWP06-111610	SLSWP06	Dissolved Metals	Surface Water	Grab	11/16/2010	13:45	1	1 L poly	HNO3 pH<2	
	SLSWP07a-111610	SLSWP07a	Alkalinity	Surface Water	Grab	11/16/2010	12:15	1	250 mL poly	4 C	
	SLSWP07a-111610	SLSWP07a	Total Metals	Surface Water	Grab	11/16/2010	12:15	1	1 L poly	HNO3 pH<2	
	SLSWP07a-111610	SLSWP07a	Dissolved Metals	Surface Water	Grab	11/16/2010	12:15	1	1 L poly	HNO3 pH<2	
	SLSWP07b-111610	SLSWP07b	Alkalinity	Surface Water	Grab	11/16/2010	12:15	1	250 mL poly	4 C	
	SLSWP07b-111610	SLSWP07b	Total Metals	Surface Water	Grab	11/16/2010	12:15	1	1 L poly	HNO3 pH<2	
	SLSWP07b-111610	SLSWP07b	Dissolved Metals	Surface Water	Grab	11/16/2010	12:15	1	1 L poly	HNO3 pH<2	
	SLSWP08-111610	SLSWP08	Alkalinity	Surface Water	Grab	11/16/2010	12:00	1	250 mL poly	4 C	
	SLSWP08-111610	SLSWP08	Total Metals	Surface Water	Grab	11/16/2010	12:00	1	1 L poly	HNO3 pH<2	
	SLSWP08-111610	SLSWP08	Dissolved Metals	Surface Water	Grab	11/16/2010	12:00	1	1 L poly	HNO3 pH<2	
	SLSWP09-111610	SLSWP09	Alkalinity	Surface Water	Grab	11/16/2010	11:50	1	250 mL poly	4 C	
	SLSWP09-111610	SLSWP09	Total Metals	Surface Water	Grab	11/16/2010	11:50	1	1 L poly	HNO3 pH<2	
	SLSWP09-111610	SLSWP09	Dissolved Metals	Surface Water	Grab	11/16/2010	11:50	1	1 L poly	HNO3 pH<2	
	SLSWP10-111610	SLSWP10	Alkalinity	Surface Water	Grab	11/16/2010	11:30	1	250 mL poly	4 C	
	SLSWP10-111610	SLSWP10	Total Metals	Surface Water	Grab	11/16/2010	11:30	1	1 L poly	HNO3 pH<2	

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
				11/18/10	14:10						

USEPA
DateShipped: 11/18/2010
CarrierName: Hand Delivery
TDF No: DG-220

CHAIN OF CUSTODY RECORD
Site #: 11172010
Contact Name: Jan Christner
Contact Phone: 720.810.0795

No: 11-17-10 Christner
Lab: ESAT - Region 8 Laboratory
Lab Phone: 303.312.7708

Lab #	Sample #	Location	Analyses	Matrix	Collection Method	Collected	Sample Time	Number Containers	Container	Preservative	MS/MSD
	SLSWP10-111610	SLSWP10	Dissolved Metals	Surface Water	Grab	11/16/2010	11:30	1	1 L poly	HNO3 pH<2	
	SLSWP11-111610	SLSWP11	Alkalinity	Surface Water	Grab	11/16/2010	11:15	1	250 mL poly	4 C	
	SLSWP11-111610	SLSWP11	Total Metals	Surface Water	Grab	11/16/2010	11:15	1	1 L poly	HNO3 pH<2	
	SLSWP11-111610	SLSWP11	Dissolved Metals	Surface Water	Grab	11/16/2010	11:15	1	1 L poly	HNO3 pH<2	
	SLSWP12-111610	SLSWP12	Alkalinity	Surface Water	Grab	11/16/2010	10:45	1	250 mL poly	4 C	
	SLSWP12-111610	SLSWP12	Total Metals	Surface Water	Grab	11/16/2010	10:45	1	1 L poly	HNO3 pH<2	
	SLSWP12-111610	SLSWP12	Dissolved Metals	Surface Water	Grab	11/16/2010	10:45	1	1 L poly	HNO3 pH<2	
	SLSWP14-111610	SLSWP14	Alkalinity	Surface Water	Grab	11/16/2010	10:30	1	250 mL poly	4 C	
	SLSWP14-111610	SLSWP14	Total Metals	Surface Water	Grab	11/16/2010	10:30	1	1 L poly	HNO3 pH<2	
	SLSWP14-111610	SLSWP14	Dissolved Metals	Surface Water	Grab	11/16/2010	10:30	1	1 L poly	HNO3 pH<2	
	SLSWP15-111610	SLSWP15	Alkalinity	Surface Water	Grab	11/16/2010	10:15	1	250 mL poly	4 C	
	SLSWP15-111610	SLSWP15	Total Metals	Surface Water	Grab	11/16/2010	10:15	1	1 L poly	HNO3 pH<2	
	SLSWP15-111610	SLSWP15	Dissolved Metals	Surface Water	Grab	11/16/2010	10:15	1	1 L poly	HNO3 pH<2	
	SLSWPP-111610	SLSWPP	Alkalinity	Surface Water	Grab	11/16/2010	10:00	1	250 mL poly	4 C	
	SLSWPP-111610	SLSWPP	Total Metals	Surface Water	Grab	11/16/2010	10:00	1	1 L poly	HNO3 pH<2	
	SLSWPP-111610	SLSWPP	Dissolved Metals	Surface Water	Grab	11/16/2010	10:00	1	1 L poly	HNO3 pH<2	

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
	[signature]		[signature]	11/18/10	14:22						

ESAT Technical Direction Form

Contract No. EPW06033
EPA Region 8

C101104

Site ID: 08BU
TDF ID: DG-220

Date Issued: 11/16/2010
Date Updated:

Date Closed By:

Name: Rico - Argentine Samples

Details: The Contractor shall analyze several soil and aqueous samples collected by UOS from the Rico-Argentine Superfund Site. The samples are expected to be delivered to the ESAT R8 Laboratory on approximately 11/19/10. The samples are expected to be analyzed for metals and alkalinity as indicated on the COCs and in the analytical information section below.

The OSC for the site is Steve Way.

Analytical

MATRIX

☑ Water ☑ Soils ☐ Vegetation ☐ Biota

WET CHEM

☐ TSS ☐ TDS ☐ DOC ☑ Alk ☐ Chloride ☐ Sulfate ☐ Fluoride ☐ Nitrate ☐ Nitrite
Other

METALS

☑ Dissolved ☑ Total Recoverable ☐ Total ☑ Hardness (Calc)

200.7: ☐ Ag ☑ Al ☐ As ☑ Ba ☐ Be ☐ B ☑ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☑ Fe ☑ K ☑ Mg
☐ Mn ☐ Mo ☑ Na ☐ Ni ☐ Pb ☐ Sb ☐ Se ☐ Sr ☐ Ti ☐ Tl ☐ V ☑ Zn ☐ SiO2

200.8: ☑ Ag ☐ Al ☑ As ☐ Ba ☐ Be ☑ Cd ☑ Co ☑ Cr ☑ Cu ☑ Mn ☐ Mo ☑ Ni ☑ Pb ☐ Sb
☑ Se ☐ Th ☐ Tl ☐ U ☐ V ☐ Zn

7470/7471/747 ☐ Hg

FIBERS

☐ PLM ☐ TEM

Deliverable

ID	*Description*	*Due Date*	*Submission Date*
1	Provide final deliverable package to Task Monitor no later than 30 days after delivery of samples.	12/20/2010	

TechLaw, Inc.
Environmental Services Assistance Team
16194 W. 45th Drive, Golden, CO 80403
303-312-7720

Task Order: 32
Contract: EP-W-06-33
Valid: April 2010 – May 2011

Certificates of Analysis

Valid through May 1, 2010

Perkin Elmer Optima ICP-OE

Perkin Elmer ELAN 6000 ICP-MS

NIPPON NIC MA2000

Perkin Elmer FIMS 100

- Initial Calibration Verification (ICV) Standards
- Laboratory Check Standards (LCS)
- Matrix Spike Solutions
- Interference Check (ICSA / AB) Standards

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 DESCRIPTION OF CRM **1000 µg/mL Aluminum in 3% (v/v) HNO3**

Catalog Number:	CGAL1-1, CGAL1-2, and CGAL1-5
Lot Number:	**C2-AL04078**
Starting Material:	Al ingot
Starting Material Purity (%):	99.998788
Starting Material Lot No:	C14S012
Matrix:	3% (v/v) HNO3

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 1003 ± 5 µg/mL

Certified Density: 1.017 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$ ($\bar{x}$) = mean; x_i = individual results; n = number of measurements

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$ Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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4.1 **Assay Method #1** **1003 ± 5 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 060502

Assay Method #2 **1002 ± 8 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 DESCRIPTION OF CRM **1000 µg/mL Antimony in 1% (v/v) HNO3 / 3% Tartaric Acid**

Catalog Number:	CGSB1-1, CGSB1-2 and CGSB1-5
Lot Number:	**C2-SB02121**
Starting Material:	Sb shot
Starting Material Purity (%):	99.996681
Starting Material Lot No:	R1105SBA1
Matrix:	1% (v/v) HNO3 / 3% Tartaric Acid

EXPIRES 1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 990 ± 4 µg/mL

Certified Density: 1.021 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
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4.1 **Assay Method #1** **990 ± 4 µg/mL (avg. of 2 runs)**
ICP Assay NIST SRM 3102A Lot Number: 061229

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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ACCREDITED Reference Material Producer Certificate 883.02

2.0 **DESCRIPTION OF CRM** **1000 µg/mL Arsenic in 2% (v/v) HNO3**

Catalog Number:	CGAS1-1, CGAS1-2, and CGAS1-5
Lot Number:	**C2-AS02061**
Starting Material:	As pieces
Starting Material Purity (%):	99.999032
Starting Material Lot No:	R1107ASB1
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 999 ± 4 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

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4.1 **Assay Method #1** **999 ± 4 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 010713

Assay Method #2 **1001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Barium in tr. HNO3**

Catalog Number:	CGBA1-1, CGBA1-2, and CGBA1-5
Lot Number:	**C2-BA02050**
Starting Material:	Ba(NO3)2
Starting Material Purity (%):	99.999911
Starting Material Lot No:	W500A
Matrix:	tr. HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1,000 ± 2 µg/mL

Certified Density: 1.000 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

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x_i = individual results
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4.1 **Assay Method #1** **999 ± 4 µg/mL**
ICP Assay NIST SRM 3104a Lot Number: 070222

Assay Method #2 **1,000 ± 2 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Beryllium in 3% (v/v) HNO3**

Catalog Number:	CGBE1-1, CGBE1-2, and CGBE1-5
Lot Number:	**C2-BE01124**
Starting Material:	Be(OOCCH3)2
Starting Material Purity (%):	99.999948
Starting Material Lot No:	0801-1
Matrix:	3% (v/v) HNO3

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1003 ± 4 µg/mL

Certified Density: 1.022 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

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4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **1003 ± 4 µg/mL**
ICP Assay NIST SRM 3105a Lot Number: 892707

Assay Method #2 **1001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Boron in H2O**

Catalog Number:	CGB1-1, CGB1-2, and CGB1-5
Lot Number:	**C2-B02083**
Starting Material:	H3BO3
Starting Material Purity (%):	99.999998
Starting Material Lot No:	OV0133
Matrix:	H2O

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 998 ± 3 µg/mL

Certified Density: 1.000 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

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n = number of measurements
Σs_i = The summation of all significant estimated errors
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4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **998 ± 3 µg/mL**
ICP Assay NIST SRM 3107 Lot Number: 070514

Assay Method #2 **1,001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Bromide (NH4) in H20**

Catalog Number:	CGICBR10-1 and CGICBR10-5
Lot Number:	**A2-BR01066**
Starting Material:	NH4Br
Starting Material Purity (%):	99.998491
Starting Material Lot No:	DI05205EU
Matrix:	H20

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 9993 ± 34 µg/mL

Certified Density: 1.004 g/mL (measured at 20 ± 1°C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
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Σs_i= The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

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4.1 **Assay Method #1** **9993 ± 34 µg/mL**
IC Assay NIST SRM 3184 Lot Number: 020701

Assay Method #2 **9976 ± 47 µg/mL**
Volhard NIST SRM 999b Lot Number: 999b

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Cadmium in 3% (v/v) HNO3**

Catalog Number:	CGCD1-1, CGCD1-2, and CGCD1-5
Lot Number:	**C2-CD02021**
Starting Material:	Cd shot
Starting Material Purity (%):	99.999656
Starting Material Lot No:	R1205CDA1
Matrix:	3% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 998 ± 3 µg/mL

Certified Density: 1.015 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value ($\bar{x}$) = $\frac{\Sigma x_i}{n}$ ($\bar{x}$) = mean
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4.1 **Assay Method #1** **995 ± 3 µg/mL**
ICP Assay NIST SRM 3108 Lot Number: 060531

Assay Method #2 **998 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 DESCRIPTION OF CRM **1000 µg/mL Calcium in 0.1% (v/v) HNO3**

Catalog Number:	CGCA1-1, CGCA1-2, and CGCA1-5
Lot Number:	**C2-CA03123**
Starting Material:	CaCO3
Starting Material Purity (%):	99.998463
Starting Material Lot No:	C808CAA1
Matrix:	0.1% (v/v) HNO3

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 997 ± 3 µg/mL

Certified Density: 1.001 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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4.1 **Assay Method #1** **993 ± 3 µg/mL**
ICP Assay NIST SRM 3109a Lot Number: 050825

Assay Method #2 **997 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Chromium (+3) in 2% (v/v) HNO3**

Catalog Number:	CGCR(3)1-1, CGCR(3)1-2, and CGCR(3)1-5
Lot Number:	**C2-CR03027**
Starting Material:	Cr pieces
Starting Material Purity (%):	99.993508
Starting Material Lot No:	R800A
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 990 ± 3 µg/mL

Certified Density: 1.013 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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4.1 **Assay Method #1** **990 ± 3 µg/mL**
ICP Assay NIST SRM 3112a Lot Number: 030730

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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1.0

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2.0 DESCRIPTION OF CRM

1000 µg/mL Cobalt in 3% (v/v) HNO3

Catalog Number:	CGCO1-1, CGCO1-2, and CGCO1-5
Lot Number:	**C2-CO02022**
Starting Material:	Co powder
Starting Material Purity (%):	99.997920
Starting Material Lot No:	PW407COA1
Matrix:	3% (v/v) HNO3

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 995 ± 3 µg/mL

Certified Density: 1.018 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value ($\bar{x}$) = $\frac{\Sigma x_i}{n}$

Uncertainty (±) = $\frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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4.1

Assay Method #1 **995 ± 3 µg/mL**
ICP Assay NIST SRM 3113 Lot Number: 00630

Assay Method #2 **1,004 ± 4 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Copper in 3% (v/v) HNO3**

Catalog Number:	CGCU1-1, CGCU1-2, and CGCU1-5
Lot Number:	**C2-CU02116**
Starting Material:	Cu shot
Starting Material Purity (%):	99.999779
Starting Material Lot No:	R508CUA2
Matrix:	3% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 992 ± 3 µg/mL

Certified Density: 1.015 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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4.1 **Assay Method #1** **994 ± 4 µg/mL**
ICP Assay NIST SRM 3114 Lot Number: 011017

Assay Method #2 **992 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Gadolinium in 7% (v/v) HNO3**

Catalog Number:	CGGD1-1, CGGD1-2, and CGGD1-5
Lot Number:	**C2-GD01038**
Starting Material:	Gd2O3
Starting Material Purity (%):	99.999400
Starting Material Lot No:	GD-0-5-026
Matrix:	7% (v/v) HNO3

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1,001 ± 3 µg/mL

Certified Density: 1.035 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **1,001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **999 ± 3 µg/mL**
ICP Assay NIST SRM 3118a Lot Number: 992004

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Iron in 2% (v/v) HNO3**

Catalog Number:	CGFE1-1, CGFE1-2, and CGFE1-5
Lot Number:	**C2-FE03104**
Starting Material:	Fe powder
Starting Material Purity (%):	99.997283
Starting Material Lot No:	R1207FEA1
Matrix:	2% (v/v) HNO3

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 996 ± 3 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **993 ± 4 µg/mL**
ICP Assay NIST SRM 3126a Lot Number: 051031

Assay Method #2 **996 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Lead in 0.5% (v/v) HNO3**

Catalog Number:	CGPB1-1, CGPB1-2, and CGPB1-5
Lot Number:	**C2-PB03013**
Starting Material:	Pb(NO3)2
Starting Material Purity (%):	99.999554
Starting Material Lot No:	E1007PBA1
Matrix:	0.5% (v/v) HNO3

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1004 ± 4 µg/mL

Certified Density: 1.001 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

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x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **999 ± 5 µg/mL**
ICP Assay NIST SRM 3128 Lot Number: 030721

Assay Method #2 **1004 ± 4 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Lithium in 0.1% (v/v) HNO3**

Catalog Number:	CGLI1-1, CGLI1-2, and CGLI1-5
Lot Number:	**C2-LI02113**
Starting Material:	Li2CO3
Starting Material Purity (%):	99.997165
Starting Material Lot No:	1123
Matrix:	0.1% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 997 ± 1 µg/mL

Certified Density: 1.005 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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4.1 **Assay Method #1** **994 ± 3 µg/mL**
ICP Assay NIST SRM 3129a Lot Number: 000505

Assay Method #2 **997 ± 1 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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2.0 DESCRIPTION OF CRM **1000 µg/mL Magnesium in 0.1% (v/v) HNO3**

Catalog Number:	CGMG1-1, CGMG1-2, and CGMG1-5
Lot Number:	**C2-MG03084**
Starting Material:	Mg metal
Starting Material Purity (%):	99.999531
Starting Material Lot No:	00265067003
Matrix:	0.1% (v/v) HNO3

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 997 ± 3 µg/mL

Certified Density: 1.002 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

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4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

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4.1 **Assay Method #1** **995 ± 3 µg/mL**
ICP Assay NIST SRM 3131a Lot Number: 050302

Assay Method #2 **997 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Manganese in 3% HNO3 (v/v)**

Catalog Number:	CGMN1-1, CGMN1-2, and CGMN1-5
Lot Number:	**B2-MN02070**
Starting Material:	Mn pieces
Starting Material Purity (%):	99.994492
Starting Material Lot No:	R806MNA1
Matrix:	3% HNO3 (v/v)

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1,005 ± 2 µg/mL

Certified Density: 1.016 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **1,005 ± 2 µg/mL**
ICP Assay NIST SRM 3132 Lot Number: 050429

Assay Method #2 **1,004 ± 2 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Mercury in 5% (v/v) HNO3**

Catalog Number:	CGHG1-1, CGHG1-2, and CGHG1-5
Lot Number:	**C2-HG02070**
Starting Material:	Hg metal
Starting Material Purity (%):	99.999792
Starting Material Lot No:	R307HGA1
Matrix:	5% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1003 ± 3 µg/mL

Certified Density: 1.027 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
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4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **999 ± 5 µg/mL**
ICP Assay NIST SRM 3133 Lot Number: 061204

Assay Method #2 **1003 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Molybdenum in H2O / tr. NH4OH**

Catalog Number:	CGMO1-1, CGMO1-2, and CGMO1-5
Lot Number:	**C2-MO02032**
Starting Material:	(NH4)6Mo7O24xH2O
Starting Material Purity (%):	99.998755
Starting Material Lot No:	P704MOA1
Matrix:	H2O / tr. NH4OH

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 999 ± 3 µg/mL

Certified Density: 0.999 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
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4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **999 ± 3 µg/mL (Avg. of 2 Runs)**
ICP Assay NIST SRM 3134 Lot Number: 891307

Assay Method #2 **1001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Nickel in 2% (v/v) HNO3**

Catalog Number:	CGNI1-1, CGNI1-2, and CGNI1-5
Lot Number:	**C2-NI02062**
Starting Material:	Ni pieces
Starting Material Purity (%):	99.999033
Starting Material Lot No:	E25T014
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1003 ± 3 µg/mL

Certified Density: 1.012 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **998 ± 3 µg/mL**
ICP Assay NIST SRM 3136 Lot Number: 000612

Assay Method #2 **1003 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Potassium in 1% HNO3**

Catalog Number:	CGK1-1, CGK1-2, and CGK1-5
Lot Number:	**C2-K03004**
Starting Material:	KNO3
Starting Material Purity (%):	99.996911
Starting Material Lot No:	B19P01
Matrix:	1% HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1006 ± 4 µg/mL

Certified Density: 1.004 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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4.1 **Assay Method #1** **1006 ± 4 µg/mL**
ICP Assay NIST SRM 3141a Lot Number: 051220

Assay Method #2 **1007 ± 2 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Selenium(+4) in 2% (v/v) HNO3**

Catalog Number:	CGSE(4)1-1, CGSE(4)1-2, and CGSE(4)1-5
Lot Number:	**C2-SE02010**
Starting Material:	Se shot
Starting Material Purity (%):	99.999239
Starting Material Lot No:	B14A38
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 992 ± 4 µg/mL

Certified Density: 1.010 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i= individual results
n = number of measurements
Σs_i= The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **992 ± 4 µg/mL (avg. of 2 runs)**
ICP Assay NIST SRM 3149 Lot Number: 992106

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Silica in 1% (v/v) HNO3 / tr. HF**

Catalog Number:	CGSIO1-1, CGSIO1-2, and CGSIO1-5
Lot Number:	**C2-SI02130**
Starting Material:	SiO2
Starting Material Purity (%):	99.999846
Starting Material Lot No:	1015122300.00
Matrix:	1% (v/v) HNO3 / tr. HF

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 999 ± 2 µg/mL

Certified Density: 1.005 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **999 ± 2 µg/mL (Avg. of 2 Runs)**
ICP Assay NIST SRM 3150 Lot Number: 071204

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Silver in 5% (v/v) HNO3**

Catalog Number:	CGAG1-1, CGAG1-2, and CGAG1-5
Lot Number:	**C2-AG02042**
Starting Material:	Ag shot
Starting Material Purity (%):	99.991024
Starting Material Lot No:	E308AGA1
Matrix:	5% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1001 ± 1 µg/mL

Certified Density: 1.024 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i= individual results
n = number of measurements
Σs_i= The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **996 ± 5 µg/mL**
ICP Assay NIST SRM 3151 Lot Number: 992212

Assay Method #2 **1001 ± 1 µg/mL**
Volhard NIST SRM 999b Lot Number: 999b

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2.0 DESCRIPTION OF CRM **1000 µg/mL Sodium in 0.1% (v/v) HNO3**

Catalog Number:	CGNA1-1, CGNA1-2, and CGNA1-5
Lot Number:	**C2-NA03074**
Starting Material:	Na2CO3
Starting Material Purity (%):	99.997122
Starting Material Lot No:	C18157
Matrix:	0.1% (v/v) HNO3

EXPIRES 1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 1,006 ± 5 µg/mL

Certified Density: 1.001 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

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4.1 **Assay Method #1** **1,006 ± 5 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 010728

Assay Method #2 **1,008 ± 5 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Strontium in 0.1% (v/v) HNO3**

Catalog Number:	CGSR1-1, CGSR1-2, and CGSR1-5
Lot Number:	**C2-SR02024**
Starting Material:	SrCO3
Starting Material Purity (%):	99.998364
Starting Material Lot No:	W999A
Matrix:	0.1% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1002 ± 3 µg/mL

Certified Density: 1.000 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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4.1 **Assay Method #1** **1002 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **1000 ± 5 µg/mL**
ICP Assay NIST SRM 3153a Lot Number: 990906

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Thallium in 0.7% (v/v) HNO3**

Catalog Number:	CGTL1-1, CGTL1-2, and CGTL1-5
Lot Number:	**D2-TL01111**
Starting Material:	TlNO3
Starting Material Purity (%):	99.999671
Starting Material Lot No:	1479
Matrix:	0.7% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1,000 ± 4 µg/mL

Certified Density: 1.003 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
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Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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4.1 **Assay Method #1** **1,000 ± 4 µg/mL (avg. of 2 runs)**
ICP Assay NIST SRM 3158 Lot Number: 993012

Assay Method #2 **1,001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 DESCRIPTION OF CRM **1000 µg/mL Thorium in 4% (v/v) HNO3**

Catalog Number:	CGTH1-1, CGTH1-2, and CGTH1-5
Lot Number:	**B2-TH01073**
Starting Material:	Th(NO3)4x4H2O
Starting Material Purity (%):	99.998809
Starting Material Lot No:	X-25828-7
Matrix:	4% (v/v) HNO3

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 1,003 ± 3 µg/mL

Certified Density: 1.021 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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4.1 **Assay Method #1** **1,003 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **1,002 ± 5 µg/mL**
ICP Assay NIST SRM 3159 Lot Number: 992912

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Tin in tr. (v/v) HNO3 / tr. (v/v) HF**

Catalog Number:	CGSN1-1, CGSN1-2, and CGSN1-5
Lot Number:	**C2-SN02024**
Starting Material:	Sn Shot
Starting Material Purity (%):	99.991456
Starting Material Lot No:	F27N16
Matrix:	tr. (v/v) HNO3 / tr. (v/v) HF

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 993 ± 4 µg/mL

Certified Density: 0.999 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$ ($\bar{x}$) = mean; x_i = individual results; n = number of measurements

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$ Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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4.1 **Assay Method #1** **993 ± 4 µg/mL (avg. of 2 runs)**
ICP Assay NIST SRM 3161a Lot Number: 070330

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Titanium in 2% (v/v) HNO3 / tr. HF**

Catalog Number:	CGTI1-1, CGTI1-2, and CGTI1-5
Lot Number:	**C2-TI02065**
Starting Material:	Ti turnings
Starting Material Purity (%):	99.996450
Starting Material Lot No:	R404TIA1
Matrix:	2% (v/v) HNO3 / tr. HF

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 991 ± 4 µg/mL

Certified Density: 1.010 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **991 ± 4 µg/mL (avg. of 2 runs)**
ICP Assay NIST SRM 3162a · Lot Number: 060808

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 DESCRIPTION OF CRM **1000 µg/mL Uranium in 1.4% (v/v) HNO3**

Catalog Number:	CGU1-1, CGU1-2, and CGU1-5
Lot Number:	**C2-U01079**
Starting Material:	UO2(NO3)2.6H2O
Starting Material Purity (%):	99.999942
Starting Material Lot No:	N55947
Matrix:	1.4% (v/v) HNO3

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 1003 ± 3 µg/mL

Certified Density: 1.006 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$\bar{x}$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

Certified Abundance: The 235U in this standard is depleted. The Certified abundances in Atom % are as follows:

IV's Certified Abundance

Isotope	Atom%
Uranium 238U	99.7 ± 0.1
235U	0.29 ± 0.05

4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **1003 ± 3 µg/mL (avg. of 2 runs)**
ICP Assay NIST SRM 3164 Lot Number: 891509

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Vanadium in 2% (v/v) HNO3**

Catalog Number:	CGV1-1, CGV1-2, and CGV1-5
Lot Number:	**C2-V02057**
Starting Material:	V2O5
Starting Material Purity (%):	99.991399
Starting Material Lot No:	Stractor 46
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 996 ± 2 µg/mL

Certified Density: 1.014 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value ($\bar{x}$) = $\frac{\Sigma x_i}{n}$

Uncertainty (±) = $\frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **997 ± 4 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **996 ± 2 µg/mL**
ICP Assay NIST SRM 3165 Lot Number: 992706

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2.0 **DESCRIPTION OF CRM** **1000 µg/mL Zinc in 2% (v/v) HNO3**

Catalog Number:	CGZN1-1, CGZN1-2, and CGZN1-5
Lot Number:	**D2-ZN02061**
Starting Material:	Zn shot
Starting Material Purity (%):	99.999384
Starting Material Lot No:	R1207ZNA1
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1,007 ± 3 µg/mL

Certified Density: 1.012 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i= individual results
n = number of measurements
Σs_i= The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **1,012 ± 3 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 080123

Assay Method #2 **1,007 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Aluminum in 7% v/v HNO3**

Catalog Number:	CGAL10-1, CGAL10-2, and CGAL10-5
Lot Number:	**D2-AL04081**
Starting Material:	Al ingot
Starting Material Purity (%):	99.998843
Starting Material Lot No:	C14S012
Matrix:	7% v/v HNO3

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,015 ± 26 µg/mL

Certified Density: 1.085 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **9996 ± 4 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 060502

Assay Method #2 **10,015 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Calcium in 2% (v/v) HNO3**

Catalog Number:	CGCA10-1, CGCA10-2, and CGCA10-5
Lot Number:	**C2-CA03132**
Starting Material:	CaO
Starting Material Purity (%):	99.997483
Starting Material Lot No:	G47339
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,027 ± 31 µg/mL

Certified Density: 1.040 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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4.1 **Assay Method #1** **10,027 ± 31 µg/mL**
ICP Assay NIST SRM 3109a Lot Number: 050825

Assay Method #2 **10,048 ± 30 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Iron in 5% (v/v) HNO3**

Catalog Number:	CGFE10-1, CGFE10-2, and CGFE10-5
Lot Number:	**C2-FE03101**
Starting Material:	Fe powder
Starting Material Purity (%):	99.999485
Starting Material Lot No:	R1207FEA1
Matrix:	5% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,011 ± 20 µg/mL

Certified Density: 1.064 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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4.1 **Assay Method #1** **9994 ± 26 µg/mL**
ICP Assay NIST SRM 3126a Lot Number: 051031

Assay Method #2 **10,011 ± 20 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Magnesium in 2% (v/v) HNO3**

Catalog Number:	CGMG10-1, CGMG10-2, and CGMG10-5
Lot Number:	**C2-MG03078**
Starting Material:	Mg metal
Starting Material Purity (%):	99.999013
Starting Material Lot No:	00265067003
Matrix:	2% (v/v) HNO3

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,038 ± 30 µg/mL

Certified Density: 1.053 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **10,007 ± 32 µg/mL**
ICP Assay NIST SRM 3131a Lot Number: 050302

Assay Method #2 **10,038 ± 30 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Potassium in 2% (v/v) HNO3**

Catalog Number:	CGK10-1, CGK10-2, and CGK10-5
Lot Number:	**C2-K03005**
Starting Material:	KNO3
Starting Material Purity (%):	99.996914
Starting Material Lot No:	B19P01
Matrix:	2% (v/v) HNO_3

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 9981 ± 28 µg/mL

Certified Density: 1.024 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **10,006 ± 52 µg/mL**
ICP Assay NIST SRM 3141a Lot Number: 051220

Assay Method #2 **9981 ± 28 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Sodium in 2% HNO3 (v/v)**

Catalog Number:	CGNA10-1, CGNA10-2, and CGNA10-5
Lot Number:	**B2-NA03063**
Starting Material:	Na2CO3
Starting Material Purity (%):	99.999644
Starting Material Lot No:	C181157
Matrix:	2% HNO3 (v/v)

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 9,941 ± 42 µg/mL

Certified Density: 1.034 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **9,941 ± 42 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 010728

Assay Method #2 **9,996 ± 12 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** Stock Second Source Solution

Catalog No.: QCP-QCS-1

Lot Number: **D2-MEB317042**

Matrix: 5% HNO3(v/v)

EXPIRES 1-May-2011

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

500.00 µg/mL ea:
K, P, Tl,

200.00 µg/mL ea:
As, Hg, Pb,

100.00 µg/mL ea:
Al, B, Ba, Be, Ca, Cd, Ce, Co, Cr3, Cu, Fe, Li, Mg, Mn, Na, Ni, Se, Sr, V, Zn,

25.00 µg/mL ea:
Ag

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Aluminum, Al	99.9 ± 0.3 µg/mL	Arsenic, As	200.0 ± 0.6 µg/mL	Barium, Ba	100.0 ± 0.1 µg/mL
Beryllium, Be	100.0 ± 0.2 µg/mL	Boron, B	100.0 ± 0.4 µg/mL	Cadmium, Cd	100.0 ± 0.2 µg/mL
Calcium, Ca	100.1 ± 0.3 µg/mL	Cerium, Ce	100.0 ± 0.3 µg/mL	Chromium+3, Cr3	100.1 ± 0.4 µg/mL
Cobalt, Co	100.0 ± 0.2 µg/mL	Copper, Cu	99.9 ± 0.3 µg/mL	Iron, Fe	100.0 ± 0.2 µg/mL
Lead, Pb	200.0 ± 0.8 µg/mL	Lithium, Li	100.0 ± 0.3 µg/mL	Magnesium, Mg	99.6 ± 0.4 µg/mL
Manganese, Mn	100.1 ± 0.2 µg/mL	Mercury, Hg	200.0 ± 0.5 µg/mL	Nickel, Ni	99.6 ± 0.3 µg/mL
Phosphorus, P	500.0 ± 1.5 µg/mL	Potassium, K	500.0 ± 3.0 µg/mL	Selenium, Se	100.0 ± 1.0 µg/mL
Silver, Ag	25.06 ± 0.13 µg/mL	Sodium, Na	99.8 ± 0.4 µg/mL	Strontium, Sr	100.0 ± 0.3 µg/mL
Thallium, Tl	500.0 ± 2.0 µg/mL	Vanadium, V	100.0 ± 0.3 µg/mL	Zinc, Zn	99.7 ± 0.3 µg/mL

Certified Density: 1.037 g/mL (measured at 20 ± 1°C)

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1.0 **INORGANIC VENTURES** is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001:2000 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 **DESCRIPTION OF CRM** Stock Second Source Solution

Catalog No.: QCP-QCS-2

Lot Number: **D2-MEB324018**

Matrix: tr. HF, 5% HNO3(v/v)

EXPIRES 1-May-2011

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

500.00 µg/mL ea:
SiO2, Sn,

200.00 µg/mL ea:
Sb,

100.00 µg/mL ea:
Mo, Ti

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Antimony, Sb	200.0 ± 0.5 µg/mL	Molybdenum, Mo	100.1 ± 0.4 µg/mL	Silica, SiO2	500.0 ± 2.4 µg/mL
Tin, Sn	500.0 ± 1.4 µg/mL	Titanium, Ti	100.0 ± 0.3 µg/mL		

Certified Density: 1.024 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

4.0 TRACEBILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.
· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs a available, the term 'in-house std.' is specified.

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2.0 **DESCRIPTION OF CRM** Stock Second Source Solution

Catalog No.: QCP-QCS-3

Lot Number: **D2-MEB324067**

Matrix: 7% HNO3(v/v)

EXPIRES 1-May-2011

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

50.00 µg/mL ea:
Se,

10.00 µg/mL ea:
Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr3, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Th, Tl, U, V, Zn

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Aluminum, Al	10.01 ± 0.02 µg/mL	Antimony, Sb	10.02 ± 0.02 µg/mL	Arsenic, As	10.00 ± 0.03 µg/mL
Barium, Ba	10.00 ± 0.01 µg/mL	Beryllium, Be	10.00 ± 0.02 µg/mL	Cadmium, Cd	10.01 ± 0.02 µg/mL
Calcium, Ca	10.01 ± 0.03 µg/mL	Chromium+3, Cr3	10.00 ± 0.04 µg/mL	Cobalt, Co	10.00 ± 0.04 µg/mL
Copper, Cu	10.00 ± 0.02 µg/mL	Iron, Fe	10.01 ± 0.03 µg/mL	Lead, Pb	10.00 ± 0.02 µg/mL
Magnesium, Mg	10.01 ± 0.03 µg/mL	Manganese, Mn	10.00 ± 0.05 µg/mL	Molybdenum, Mo	10.02 ± 0.04 µg/mL
Nickel, Ni	10.00 ± 0.03 µg/mL	Potassium, K	10.01 ± 0.03 µg/mL	Selenium, Se	49.99 ± 0.13 µg/mL
Silver, Ag	10.00 ± 0.05 µg/mL	Sodium, Na	10.01 ± 0.02 µg/mL	Thallium, Tl	10.00 ± 0.02 µg/mL
Thorium, Th	9.94 ± 0.03 µg/mL	Uranium, U	10.02 ± 0.04 µg/mL	Vanadium, V	10.00 ± 0.03 µg/mL
Zinc, Zn	10.00 ± 0.04 µg/mL				

Certified Density: 1.034 g/mL (measured at 20 ± 1°C)

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2.0 **DESCRIPTION OF CRM** Custom Second Source Solution

Catalog No.: QCP-QCS-4

Lot Number: **C2-MEB236111**

Matrix: 7% HNO3(v/v)

EXPIRES 1-May-2011

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

5.00 µg/mL ea:
Hg

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Mercury, Hg	4.982 ± 0.012 µg/mL				

Certified Density: 1.034 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEBILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

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4.1 ASSAY INFORMATION

ELEMENT	METHOD	NIST SRM#	SRM LOT#	ELEMENT	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204	Hg	EDTA	928	928

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2.0 **DESCRIPTION OF CRM** Stock Solution

Catalog No.: WW-LFS-1

Lot Number: **B2-MEB236093**

Matrix: 5% HNO3(v/v)

EXPIRES
1-May-2011

1,000.00 µg/mL ea:
K,

600.00 µg/mL ea:
P,

300.00 µg/mL ea:
Fe, Na,

200.00 µg/mL ea:
Al, Ce, Mg, Se, Tl,

100.00 µg/mL ea:
Ca, Pb,

80.00 µg/mL ea:
As,

70.00 µg/mL ea:
Hg,

50.00 µg/mL ea:
Ni,

40.00 µg/mL ea:
Cr3,

30.00 µg/mL ea:
B, Cu, V,

20.00 µg/mL ea:
Ba, Be, Cd, Co, Li, Mn, Sr, Zn,

7.50 µg/mL ea:
Ag

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Aluminum, Al	199.5 ± 0.5 µg/mL	Arsenic, As	80.0 ± 0.3 µg/mL	Barium, Ba	20.04 ± 0.08 µg/mL
Beryllium, Be	19.96 ± 0.04 µg/mL	Boron, B	30.08 ± 0.11 µg/mL	Cadmium, Cd	20.02 ± 0.05 µg/mL
Calcium, Ca	99.9 ± 0.3 µg/mL	Cerium, Ce	200.0 ± 0.6 µg/mL	Chromium+3, Cr3	39.85 ± 0.15 µg/mL
Cobalt, Co	20.05 ± 0.08 µg/mL	Copper, Cu	29.92 ± 0.11 µg/mL	Iron, Fe	298.6 ± 0.6 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL	Magnesium, Mg	199.2 ± 0.8 µg/mL
Manganese, Mn	19.90 ± 0.05 µg/mL	Mercury, Hg	69.9 ± 0.1 µg/mL	Nickel, Ni	49.87 ± 0.14 µg/mL

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2.0 **DESCRIPTION OF CRM**

	Stock Solution
Catalog No.:	WW-LFS-2
Lot Number:	**B2-MEB236102**
Matrix:	tr. HF, 5% HNO3(v/v)

200.00 µg/mL ea:
SiO2,

80.00 µg/mL ea:
Sb,

70.00 µg/mL ea:
Sn,

40.00 µg/mL ea:
Mo,

20.00 µg/mL ea:
Ti

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Antimony, Sb	80.2 ± 0.2 µg/mL	Molybdenum, Mo	40.05 ± 0.10 µg/mL	Silica, SiO2	199.5 ± 0.4 µg/mL
Tin, Sn	69.9 ± 0.2 µg/mL	Titanium, Ti	20.04 ± 0.04 µg/mL		

Certified Density: 1.022 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEBILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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ACCREDITED Testing Laboratory, Certificate 933.01 ACCREDITED Reference Material Producer Certificate 933.02

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2.0 DESCRIPTION OF CRM Stock Solution

Catalog No.: 6020ICS-0A

Lot Number: **C2-MEB307012**

Matrix: 1.4% HNO3(v/v)

EXPIRES 1-May-2011

10,000.00 µg/mL ea:
Chloride,

2,000.00 µg/mL ea:
C,

1,000.00 µg/mL ea:
Al, Ca, Fe, K, Mg, Na, P, S,

20.00 µg/mL ea:
Mo, Ti

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Aluminum, Al	1,002 ± 3 µg/mL	Calcium, Ca	1,002 ± 3 µg/mL	Carbon, C	2,004 ± 10 µg/mL
Chloride, Chloride	10,020.0 ± 20.0 µg/mL	Iron, Fe	1,002 ± 3 µg/mL	Magnesium, Mg	1,002 ± 3 µg/mL
Molybdenum, Mo	20.04 ± 0.07 µg/mL	Phosphorus, P	1,002 ± 5 µg/mL	Potassium, K	1,002 ± 3 µg/mL
Sodium, Na	1,002 ± 2 µg/mL	Sulfur, S	1,002 ± 5 µg/mL	Titanium, Ti	20.09 ± 0.06 µg/mL

Certified Density: 1.033 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
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2.0 **DESCRIPTION OF CRM** Stock Solution

Catalog No.: 6020ICS-0B

Lot Number: **A2-MEB194156**

Matrix: 2% HNO3(v/v)

EXPIRES 1-May-2011

2.00 µg/mL ea:
Ag, As, Cd, Co, Cr3, Cu, Mn, Ni, Zn

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Arsenic, As	2.002 ± 0.012 µg/mL	Cadmium, Cd	2.004 ± 0.008 µg/mL	Chromium+3, Cr3	2.001 ± 0.004 µg/mL
Cobalt, Co	2.000 ± 0.008 µg/mL	Copper, Cu	1.998 ± 0.006 µg/mL	Manganese, Mn	2.005 ± 0.004 µg/mL
Nickel, Ni	2.004 ± 0.004 µg/mL	Silver, Ag	2.004 ± 0.006 µg/mL	Zinc, Zn	1.998 ± 0.004 µg/mL

Certified Density: 1.009 g/mL (measured at 22° C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEBILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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2.0 **DESCRIPTION OF CRM** Stock Solution

Catalog No.: 6020SPK-W

Lot Number: **B2-CICP22006**

Matrix: 5% HNO3(abs)

EXPIRES 1-May-2011

100.00 µg/mL ea:
Fe,

50.00 µg/mL ea:
Ba, Zn,

20.00 µg/mL ea:
Co, Cr3, Cu, Mn, Ni, Sb, V,

10.00 µg/mL ea:
As, Pb,

5.00 µg/mL ea:
Ag, Be, Cd, Se, Tl

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Antimony, Sb	20.03 ± 0.04 µg/mL	Arsenic, As	10.04 ± 0.03 µg/mL	Barium, Ba	50.15 ± 0.08 µg/mL
Beryllium, Be	4.989 ± 0.010 µg/mL	Cadmium, Cd	5.016 ± 0.015 µg/mL	Chromium+3, Cr3	19.99 ± 0.08 µg/mL
Cobalt, Co	20.01 ± 0.10 µg/mL	Copper, Cu	20.04 ± 0.04 µg/mL	Iron, Fe	99.7 ± 0.2 µg/mL
Lead, Pb	10.04 ± 0.02 µg/mL	Manganese, Mn	20.01 ± 0.04 µg/mL	Nickel, Ni	20.02 ± 0.06 µg/mL
Selenium, Se	5.001 ± 0.020 µg/mL	Silver, Ag	5.015 ± 0.015 µg/mL	Thallium, Tl	5.013 ± 0.010 µg/mL
Vanadium, V	20.01 ± 0.04 µg/mL	Zinc, Zn	50.00 ± 0.18 µg/mL		

Certified Density: 1.040 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
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Σs_i = The summation of all significant estimated errors
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2.0 **DESCRIPTION OF CRM** Stock Solution

Catalog No.: 6020SPK-S

Lot Number: **A2-CICP20089**

Matrix: 5% HNO3(abs)

EXPIRES
1-May-2011

50.00 µg/mL each:
Ba, Cr3, Cu, Zn,
30.00 µg/mL each:
V,
25.00 µg/mL each:
Ni,
20.00 µg/mL each:
Co, Pb, Sb,
10.00 µg/mL each:
Ag, As, Cd,
5.00 µg/mL each:
Be, Se, Tl

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Antimony, Sb	20.07 ± 0.06 µg/mL	Arsenic, As	10.01 ± 0.03 µg/mL	Barium, Ba	50.10 ± 0.09 µg/mL
Beryllium, Be	5.007 ± 0.020 µg/mL	Cadmium, Cd	10.02 ± 0.02 µg/mL	Chromium+3, Cr3	50.11 ± 0.06 µg/mL
Cobalt, Co	20.03 ± 0.09 µg/mL	Copper, Cu	49.88 ± 0.16 µg/mL	Lead, Pb	20.04 ± 0.06 µg/mL
Nickel, Ni	25.00 ± 0.09 µg/mL	Selenium, Se	5.020 ± 0.010 µg/mL	Silver, Ag	10.00 ± 0.03 µg/mL
Thallium, Tl	5.010 ± 0.015 µg/mL	Vanadium, V	29.92 ± 0.09 µg/mL	Zinc, Zn	49.93 ± 0.13 µg/mL

Certified Density: 1.036 g/mL (measured at 22° C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
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n = number of measurements
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2.0 **DESCRIPTION OF CRM** Stock Solution

Catalog No.: 2007ICS-1

Lot Number: **A2-MEB236039**

Matrix: tr. HF, 2% HNO3(abs)

1,000.00 µg/mL ea:
Ti,

500.00 µg/mL ea:
B,

300.00 µg/mL ea:
Mo,

230.00 µg/mL ea:
Si

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Boron, B	499.9 ± 2.1 µg/mL	Molybdenum, Mo	299.9 ± 0.5 µg/mL	Silicon, Si	230.0 ± 0.5 µg/mL
Titanium, Ti	1,000 ± 2 µg/mL				

Certified Density: 1.019 g/mL (measured at 22° C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
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CERTIFICATE OF ANALYSIS

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ACCREDITED Reference Material Producer Certificate 883.02

2.0 **DESCRIPTION OF CRM** Custom Solution

Catalog No.: 2007ICS-3

Lot Number: **C2-MEB307125**

Matrix: 7% HNO3(v/v)

EXPIRES
1-May-2011

20,000.00 µg/mL ea:
K,

1,000.00 µg/mL ea:
As, Pb, Tl,

500.00 µg/mL ea:
Se,

300.00 µg/mL ea:
Ag, Ba, Cd, Co, Cr3, Cu, Ni, V, Zn,

200.00 µg/mL ea:
Mn,

100.00 µg/mL ea:
Be

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Arsenic, As	1,000 ± 3 µg/mL	Barium, Ba	300.0 ± 0.6 µg/mL	Beryllium, Be	100.2 ± 0.4 µg/mL
Cadmium, Cd	300.0 ± 0.7 µg/mL	Chromium+3, Cr3	300.0 ± 1.1 µg/mL	Cobalt, Co	300.0 ± 1.2 µg/mL
Copper, Cu	300.8 ± 0.6 µg/mL	Lead, Pb	1,000 ± 2 µg/mL	Manganese, Mn	199.3 ± 0.4 µg/mL
Nickel, Ni	300.2 ± 0.8 µg/mL	Potassium, K	20,000.0 ± 50.0 µg/mL	Selenium, Se	500.0 ± 2.0 µg/mL
Silver, Ag	300.0 ± 0.7 µg/mL	Thallium, Tl	1,000 ± 2 µg/mL	Vanadium, V	300.0 ± 0.9 µg/mL
Zinc, Zn	300.2 ± 1.3 µg/mL				

Certified Density: 1.089 g/mL (measured at 22° C)

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2.0 **DESCRIPTION OF CRM** Stock Solution

Catalog No.: 2007ICS-4

Lot Number: **B2-MEB236099**

Matrix: 3% HNO3(v/v)

EXPIRES
1-May-2011

15,000.00 µg/mL ea:
Ca,

12,500.00 µg/mL ea:
Fe,

7,500.00 µg/mL ea:
Mg,

3,000.00 µg/mL ea:
Al,

2,500.00 µg/mL ea:
Na

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Aluminum, Al	3,001 ± 8 µg/mL	Calcium, Ca	15,000.0 ± 40.0 µg/mL	Iron, Fe	12,500.0 ± 20.0 µg/mL
Magnesium, Mg	7,500.0 ± 30.0 µg/mL	Sodium, Na	2,502 ± 11 µg/mL		

Certified Density: 1.180 g/mL (measured at 22° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEBILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

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TechLaw, Inc.
Environmental Services Assistance Team
16194 W. 45th Drive, Golden, CO 80403
303-312-7720

Task Order: 32
Contract: EP-W-06-33
Valid: April 2010 – May 2011

Certificates of Analysis

Valid through May 1, 2010

Alkalinity

Anions by Ion Chromatography

Dissolved Organic Carbon

- Initial Calibration Verification (ICV) Standards
- Laboratory Check Standards (LCS)
- Matrix Spike Solutions
- Interference Check (ICSA / AB) Standards

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4/6/10

2.0 **DESCRIPTION OF CRM** **Ion Chromatography 10,000 µg/mL Sulfate in H20**

Catalog Number:	ICSO410-1 and ICSO410-5
Lot Number:	**B2-SOX01084**
Starting Material:	K2SO4
Starting Material Purity (%):	99.0000
Starting Material Lot No.:	08524KC
Matrix:	H20

EXPIRES 1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,030 ± 22 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/4}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

Assay Method #1 **10,030 ± 22 µg/mL (Avg. of 2 Runs)**
IC Assay NIST SRM 3154 Lot Number: 892205

Assay Method #2 **10,010 ± 50 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM**

Catalog Number:	**Ion Chromatography 10000 µg/mL Nitrate as N in H2O**
Lot Number:	ICNNO310-1 and ICNNO310-5
Starting Material:	**B2-NOX02064**
Starting Material Purity (%):	NaNO3
Starting Material Lot No.:	99.0000
Matrix:	12616AC
	H2O

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46 Lo

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

EXPIRES 1-May-2011

Certified Concentration: 10,056 ± 30 µg/mL

Certified Density: 1.038 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

Assay Method #1 **10,056 ± 30 µg/mL (Avg. of 2 Runs)**
IC Assay NIST SRM 3185 Lot Number: 050517

Assay Method #2 **10,008 ± 50 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** **Ion Chromatography 10000 µg/mL Nitrite as N in H2O**

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Catalog Number:	ICNNO210-1 and ICNNO210-5
Lot Number:	**B2-NOX02059**
Starting Material:	NaNO2
Starting Material Purity (%):	99.6000
Starting Material Lot No.:	18122HO
Matrix:	H2O

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 9,984 ± 30 µg/mL

Certified Density: 1.037 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i= individual results
n = number of measurements
Σs_i= The summation of all significant estimated errors (Most common are the errors from instumental measurement, weighing, dilution to volume and the fixed error reported on the NIST SRM certificate of analysis)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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Assay Method #1 **9,984 ± 30 µg/mL (Avg. of 2 Runs)**
IC Assay NIST SRM 40h Lot Number: 000412

Assay Method #2 **10,009 ± 50 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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4/6/10

2.0 **DESCRIPTION OF CRM** **Ion Chromatography 10,000 µg/mL Chloride in H2O**

Catalog Number:	ICCL10-1 and ICCL10-5
Lot Number:	**B2-CL01086**
Starting Material:	KCl
Starting Material Purity (%):	99.9990
Starting Material Lot No.:	075K0024
Matrix:	H2O

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,202 ± 20 µg/mL

Certified Density: 1.010 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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Assay Method #1 **10,202 ± 20 µg/mL**
IC Assay NIST SRM 3182 Lot Number: 060925

Assay Method #2 **10,180 ± 40 µg/mL**
Volhard NIST SRM 999b Lot Number: 999b

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2.0 **DESCRIPTION OF CRM** **10000 µg/mL Bromide (NH4) in H20**

Catalog Number:	CGICBR10-1 and CGICBR10-5
Lot Number:	**A2-BR01066**
Starting Material:	NH4Br
Starting Material Purity (%):	99.998491
Starting Material Lot No:	DI05205EU
Matrix:	H20

Exp 01-MAY-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 9993 ± 34 µg/mL

Certified Density: 1.004 g/mL (measured at 20 ± 1°C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty.

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

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The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

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4.1 **Assay Method #1** **9993 ± 34 µg/mL**
IC Assay NIST SRM 3184 Lot Number: 020701

Assay Method #2 **9976 ± 47 µg/mL**
Volhard NIST SRM 999b Lot Number: 999b

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2.0 **DESCRIPTION OF CRM** **Ion Chromatography 10,000 µg/mL Fluoride in H2O**

Catalog Number:	ICF10-1 and ICF10-5
Lot Number:	**C2-F01054**
Starting Material:	Sodium Fluoride
Starting Material Purity (%):	99.0000
Starting Material Lot No.:	04408EZ
Matrix:	H2O

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,117 ± 19 µg/mL

Certified Density: 1.020 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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Assay Method #1 **10,117 ± 19 µg/mL (Avg. of 2 Runs)**
IC Assay NIST SRM 3183 Lot Number: 050721

Assay Method #2 **10,019 ± 51 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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4/6/10

2.0 **DESCRIPTION OF CRM** **Ion Chromatography 10,000 µg/mL Phosphate as P in H2O**

Catalog Number:	ICPPO410-1 and ICPPO410-5
Lot Number:	**B2-POX01082**
Starting Material:	NH4H2PO4
Starting Material Purity (%):	99.9990
Starting Material Lot No.:	10911CA / 07430AE
Matrix:	H2O

EXPIRES
1-May-2011

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 10,006 ± 26 µg/mL

Certified Density: 1.018 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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Assay Method #1 **10,006 ± 26 µg/mL (Avg. of 2 Runs)**
IC Assay NIST SRM 3186 Lot Number: 000330

Assay Method #2 **10,009 ± 50 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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2.0 **DESCRIPTION OF CRM** Stock Second Source Custom Solution

Catalog No.: QCP-QCS-5

Lot Number: **C2-MEB307127**

Matrix: H2O

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

75.00 µg/mL ea:
Sulfate,

50.00 µg/mL ea:
Bromide,

25.00 µg/mL ea:
oPhosph
ate_as_
P,

15.00 µg/mL ea:
Chloride, Nitrite_a
s_N,

10.00 µg/mL ea:
Fluoride, Nitrate_a
s_N

EXPIRES
1-May-2011

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Bromide, Bromide	49.98 ± 0.24 µg/mL	Chloride, Chloride	15.00 ± 0.04 µg/mL	Fluoride, Fluoride	10.00 ± 0.03 µg/mL
Nitrate_ as_ N, Nitrate_as_N	10.02 ± 0.03 µg/mL	Nitrite_ as_ N, Nitrite_as_N	15.00 ± 0.04 µg/mL	o-Phosphate as P, oPhosphate_as_P	25.08 ± 0.07 µg/mL
Sulfate, Sulfate	75.0 ± 0.2 µg/mL				

Certified Density: 0.997 g/mL (measured at 20 ± 1°C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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WATER QC CERTIFIED REFERENCE MATERIAL Complex Nutrients

Catalog No: QCP-NUT-2

Lot Number: **B2-NUT01111**

EXPIRES
1-May-2011

STABILITY AND STORAGE INFORMATION

- This CRM can be stored at room temperature before opening. After opening and dilution, the EPA recommends that it be stored at 4 °C for no more than 48 hours for Nitrate as N and Phosphate as P. For Nitrate plus Nitrite as N and Ammonia as N samples, a "maximum" holding time of 28 days at 4 °C is recommended. The EPA recommendations for holding time and storage conditions should be followed **after** opening and dilution.

SPECIFICATIONS AND TRACEABILITY:

Parameter	Certified Value	Made to Value	Analytical Method	NIST Traceability	Acceptance Limits
Total Kjeldahl Nitrogen as N	15.1 ± 0.3 mg/L	15.0 mg/L	Dumas Micro Combustion	SRM 141c	18.6 – 11.5 mg/L
Total Organic Phosphorus as P	8.02 ± 0.04 mg/L	8.00 mg/L	ICP	SRM 3139a	9.64 – 6.40 mg/L

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis

ANALYZED DENSITY OF SOLUTION (measured at 22°C): **1.013 g/mL**

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

INORGANIC VENTURES is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001:2000 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 583.02

13647
4/6/10

WATER QC Reference Material Solids

Catalog No: QCP-SLD

Lot Number: **C2-SLD02007**

EXPIRES
1-May-2011

STABILITY AND STORAGE INFORMATION

- This reference material can be stored at room temperature before and after opening. The EPA recommends a "maximum" holding time for solids samples of 7 days at 4 °C. Our stability data indicates that this standard should be disposed of in 3 months after opening.

SPECIFICATIONS AND TRACEABILITY:

Parameter	Certified Value	Made to Value	Analytical Method	NIST Traceability	Acceptance Limits
Filterable Residue	3893.3 ± 68 mg/L	4200 mg/L	EPA Method 160.1	Gravimetric	4835 - 2952 mg/L
Non-filterable Residue	151.6 ± 3.2 mg/L	185 mg/L	EPA Method 160.2	Gravimetric	161.9 – 141.3 mg/L
Total Residue	4052 ± 116 mg/L	4385 mg/L	EPA Method 160.3	Gravimetric	5032 – 3073 mg/L

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

LIMS: 0101501

WATER QC REFERENCE MATERIAL Minerals

Catalog No: QCP-MIN

EXPIRES 01 2011

Lot Number: **C2-MIN01121**

STABILITY AND STORAGE INFORMATION

- Do not put transfer devices, probes, etc. in sample container. The insertion of a pH electrode, for example, can significantly increase the conductivity, potassium, and chloride values. This standard can be stored at room temperature before opening. After opening, the EPA recommends a "maximum" holding time for the following:

PARAMETER	HOLDING CONDITIONS	HOLDING TIME
Alkalinity	4°C	14 days
Conductivity	4°C	28 days
Chloride	None required	28 days
Sulfate	4°C	28 days
Nitrate as N	4°C	48 hours
Fluoride	None required	28 days
Sodium	HNO_3 to pH<2	6 months
Potassium	HNO_3 to pH<2	6 months

***pH: The value listed below is for informational purposes only. The pH value of this CRM is not stable and cannot be relied upon. It can change up to 1 pH unit. For a certified pH CRM, use catalog no. QCP-PH.**

SPECIFICATIONS AND TRACEABILITY:

Parameter	Certified Value	Made to Value	Analytical Method	NIST Traceability	Acceptance Limits
Alkalinity	123.01 ± 0.73 mg/L $CaCO_3$	123.7 mg/L	EPA Method 310.1	723d	130.84 – 115.18 mg/L $CaCO_3$
Conductivity	1186 ± 1 µmhos/cm @ 25°C	Measured	EPA Method 120.1	999b	1310 – 1062 µmhos/cm @ 25°C
Chloride	192.211 ± 1.601 mg/L	198.0 mg/L	EPA Method 300.0	3182	206.496 – 177.926 mg/L
Fluoride	5.633 ± 0.177 mg/L	6.000 mg/L	EPA Method 300.0	3183	6.089 – 5.176 mg/L
Sulfate	113.542 ± 2.974 mg/L	120.0 mg/L	EPA Method 300.0	3154	129.612 – 97.472 mg/L
Nitrate as N	4.685 ± 0.194 mg/L	5.001 mg/L	EPA Method 300.0	3185	5.635 – 3.735 mg/L
Sodium	193.904 ± 6.657 mg/L	242.7 mg/L	ICP	3152a	212.83 – 174.985 mg/L
Potassium	92.095 ± 1.733 mg/L	97.63 mg/L	ICP	3141a	105.144 – 79.047 mg/L
pH	9.18 units	Measured	EPA Method 310.1	186g, 185h	*See parameters table above

RICCA CHEMICAL COMPANY

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Pocomoke City, MD 21851
Batesville, IN 47006
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Certificate of Analysis

Conductivity/TDS Standard, 1 mS/cm (1000 µmho/cm) at 25°C, 495 ppm as NaCl

Lot Number: 1909460 Product Number: 2243 Expiration Date: MAR 2011 Manufacture Date:9/18/2009

The certified value for this product is confirmed in independent testing by a second qualified chemist.

Contains:

Name	CAS#	Grade
Sodium Chloride, NaCl	7647-14-5	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, odorless	Passed Test
Conductivity at 25 °C (traceable to NIST SRM 3193)	Conductivity determination	1000 ± 1 µS/cm at 25.0 °C	1000 µS/cm at 25.0 °C

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
2243-32	18 months
2243-5	18 months
2243-20	18 months
2243-1	18 months
2243-16	18 months
2243-100P	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."
To determine manufacturing site using lot number, visit www.riccachemical.com/AboutUs/lot.pdf.

Version: 1

Certificate of Analysis

Analytical Solutions

Total Organic Carbon (TOC) Standard

Catalog Number: IQC-106
Lot Number: K00587
Job Number: J00009977
Lot Issue Date: 06/17/2009
Expiration Date: 07/31/2011

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentrations were verified by our ISO 17025 accredited laboratory to be within ± 2.5%, when compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value for each analyte is determined gravimetrically.

Analyte	True Value				Analytical Method	NIST SRM
TOC	1000	±	5	mg/L	TOC Analyzer	84K

Matrix: low TOC water (< 50 ppb)

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001

ACCREDITED

ISO 17025:2005
Accredited
A2LA
Cert. No. 0851.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 401-295-2330
www.ultrasci.com

See Reverse For Additional Information

William J. Leary
Quality Assurance Manag

TechLaw
Quality & Integrity

Alkalinity - EPA Method 310.1
Mettler Auto Titrator

Date: 11/30/2010 Analyst: Scott Van Overmeiren

Work Order(s): C101104 TDF D6-220

Standards Information

CCV LIMS #: 9072201 Concentration 100 mg/L Exp. Date 12/22/2010

ICV/LCS: QCP-MIN LIMS ID#: 0101501 Concentration 123.01 mg/L Exp. Date 11/1/2011

Solution Information

0.1 N H_2SO_4 Stock Solution Lot # : C08506

~0.0125g per 50 mL; i.e. 1mL of (1.25g / 100mL) to 50 mL for titer determinations.

Date Titer Solutions. Prepared: 11/30/2010

0.02 N H_2SO_4 Titer Value: 0.02

Analysis Information

pH Calibration Slope: -58.10 Titer Mean (N): 0.01973

Number of samples: 33 QC Sample ID: C101104-01
C101104-52

Comments / Information

Sequence: 1012001/1012002

Batch: 101115/101116

LIMS Upload 12/01/2010 Peer Review By: SW Date: 12-2-10

PREPARATION BENCH SHEET

1011115

TechLaw, Inc. - ESAT Region 8

fwn 11/30/10

Matrix: Water

Printed: 11/30/2010 8:23:03AM

Date Prepared: 11/30/10 08:21 By: SV

Prepared using: ADMIN - No Lab Prep Reqd

Lab Number	Analysis	EPA Tag ID	Initial (mL)	Final (mL)	Spike1 ID	ul Spike1	Spike2 ID	ul Spike2	Source ID	QC Code	Extraction Comments
1011115-BLK1	QC		50	50						Blank	
1011115-DUP1	QC		50	50					C101104-01	Duplicate	
1011115-SRM1	QC		50	50	0101501	50000				Reference	
C101104-01 A	WC - Alkalinity	To Tag Prefix-	50	50						SLDRBG	
C101104-04 A	WC - Alkalinity	To Tag Prefix-	50	50						SLDRBG DUP	
C101104-07 A	WC - Alkalinity	To Tag Prefix-	50	50						SLDRMZ1a	
C101104-10 A	WC - Alkalinity	To Tag Prefix-	50	50						SLDRMZ1b	
C101104-13 A	WC - Alkalinity	To Tag Prefix-	50	50						SLDRMZ1c	
C101104-16 A	WC - Alkalinity	To Tag Prefix-	50	50						SLDRMZ2	
C101104-19 A	WC - Alkalinity	To Tag Prefix-	50	50						SLPO01	
C101104-22 A	WC - Alkalinity	To Tag Prefix-	50	50						SLPO02	
C101104-25 A	WC - Alkalinity	To Tag Prefix-	50	50						SLPO03	
C101104-28 A	WC - Alkalinity	To Tag Prefix-	50	50						SLPO04	
C101104-31 A	WC - Alkalinity	To Tag Prefix-	50	50						SLPO05	
C101104-34 A	WC - Alkalinity	To Tag Prefix-	50	50						SLSW01	
C101104-37 A	WC - Alkalinity	To Tag Prefix-	50	50						SLSW02	
C101104-40 A	WC - Alkalinity	To Tag Prefix-	50	50						SLSW03	
C101104-43 A	WC - Alkalinity	To Tag Prefix-	50	50						SLSW04	
C101104-46 A	WC - Alkalinity	To Tag Prefix-	50	50						SLSW05	
C101104-49 A	WC - Alkalinity	To Tag Prefix-	50	50						SLSWDR3	

DG-220

PREPARATION BENCH SHEET

1011116

11/30/10

TechLaw, Inc. - ESAT Region 8

Matrix: Water

Printed: 11/30/2010 8:23:44AM

Date Prepared: 11/30/10 08:23 By: SV

Prepared using: ADMIN - No Lab Prep Reqd

Lab Number	Analysis	EPA Tag ID	Initial (mL)	Final (mL)	Spike1 ID	ul Spike1	Spike2 ID	ul Spike2	Source ID	QC Code	Extraction Comments
1011116-BLK1	QC		50	50						Blank	
1011116-DUP1	QC		50	50					C101104-52	Duplicate	
1011116-SRM1	QC		50	50	0101501	50000				Reference	
C101104-52 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWDR4	
C101104-55 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWDR6	
C101104-58 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWDR7b	
C101104-61 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWDR7c	
C101104-64 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWFB	
C101104-67 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP06	
C101104-70 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP07a	
C101104-73 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP07b	
C101104-76 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP08	
C101104-79 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP09	
C101104-82 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP10	
C101104-85 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP11	
C101104-88 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP12	
C101104-91 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP14	
C101104-94 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWP15	
C101104-97 A	WC - Alkalinity	[o Tag Prefix-/	50	50						SLSWPP	

DG-220

ANALYSIS SEQUENCE

1012001 11/30/10

Instrument: Mettler AT Sequence Date: 11/30/10 00:00 Printed: 12/1/2010 9:54:15AM

Lab Number	Dilut. Factor	Analysis	STD ID	Sample/Std Name	EPA Tag ID	Source Sple	Comments
1011115-SRM1		QC		Reference		-	
1011115-BLK1		QC		Blank		-	
C101104-01 A		WC - Alkalinity		SLDRBG	No Tag Prefix-A		
1011115-DUP1		QC		Duplicate		C101104-01	
C101104-04 A		WC - Alkalinity		SLDRBG DUP	No Tag Prefix-A		
C101104-07 A		WC - Alkalinity		SLDRMZ1a	No Tag Prefix-A		
C101104-10 A		WC - Alkalinity		SLDRMZ1b	No Tag Prefix-A		
C101104-13 A		WC - Alkalinity		SLDRMZ1c	No Tag Prefix-A		
C101104-16 A		WC - Alkalinity		SLDRMZ2	No Tag Prefix-A		
C101104-19 A		WC - Alkalinity		SLPO01	No Tag Prefix-A		
1012001-CCV1		QC	9072201	Calibration Check		-	
1012001-CCB1		QC		Calibration Blank		-	
C101104-22 A		WC - Alkalinity		SLPO02	No Tag Prefix-A		
C101104-25 A		WC - Alkalinity		SLPO03	No Tag Prefix-A		
C101104-28 A		WC - Alkalinity		SLPO04	No Tag Prefix-A		
C101104-31 A		WC - Alkalinity		SLPO05	No Tag Prefix-A		
C101104-34 A		WC - Alkalinity		SLSW01	No Tag Prefix-A		
C101104-37 A		WC - Alkalinity		SLSW02	No Tag Prefix-A		
C101104-40 A		WC - Alkalinity		SLSW03	No Tag Prefix-A		
C101104-43 A		WC - Alkalinity		SLSW04	No Tag Prefix-A		
C101104-46 A		WC - Alkalinity		SLSW05	No Tag Prefix-A		
C101104-49 A		WC - Alkalinity		SLSWDR3	No Tag Prefix-A		
1012001-CCV2		QC	9072201	Calibration Check		-	
1012001-CCB2		QC		Calibration Blank		-	

ANALYSIS SEQUENCE

1012002

11/30/10

Instrument: Mettler AT Sequence Date: 11/30/10 00:00 Printed: 12/1/2010 9:58:39AM

Lab Number	Dilut. Factor	Analysis	STD ID	Sample/Std Name	EPA Tag ID	Source Sple	Comments
1011116-SRM1		QC		Reference		-	
1011116-BLK1		QC		Blank		-	
C101104-52 A		WC - Alkalinity		SLSWDR4	No Tag Prefix-A		
1011116-DUP1		QC		Duplicate		C101104-52	
C101104-55 A		WC - Alkalinity		SLSWDR6	No Tag Prefix-A		
C101104-58 A		WC - Alkalinity		SLSWDR7b	No Tag Prefix-A		
C101104-61 A		WC - Alkalinity		SLSWDR7c	No Tag Prefix-A		
C101104-64 A		WC - Alkalinity		SLSWFB	No Tag Prefix-A		
C101104-67 A		WC - Alkalinity		SLSWP06	No Tag Prefix-A		
C101104-70 A		WC - Alkalinity		SLSWP07a	No Tag Prefix-A		
1012002-CCV1		QC	9072201	Calibration Check		-	
1012002-CCB1		QC		Calibration Blank		-	
C101104-73 A		WC - Alkalinity		SLSWP07b	No Tag Prefix-A		
C101104-76 A		WC - Alkalinity		SLSWP08	No Tag Prefix-A		
C101104-79 A		WC - Alkalinity		SLSWP09	No Tag Prefix-A		
C101104-82 A		WC - Alkalinity		SLSWP10	No Tag Prefix-A		
C101104-85 A		WC - Alkalinity		SLSWP11	No Tag Prefix-A		
C101104-88 A		WC - Alkalinity		SLSWP12	No Tag Prefix-A		
C101104-91 A		WC - Alkalinity		SLSWP14	No Tag Prefix-A		
C101104-94 A		WC - Alkalinity		SLSWP15	No Tag Prefix-A		
C101104-97 A		WC - Alkalinity		SLSWPP	No Tag Prefix-A		
1012002-CCV2		QC	9072201	Calibration Check		-	
1012002-CCB2		QC		Calibration Blank		-	

Method: **pHCAL** **Calibration** **3/13/2008 2:14:42 PM**
Start time: **11/30/2010 12:47:50 PM** 11/30/10

Results

No.	Comment / ID	Start time	Rx	Result	Unit	Name
1/2	FISHER (Ref. 25oC) 7.00	11/30/2010 12:47:51 PM	R1	=-1.700	mv	--
2/2	FISHER (Ref. 25oC) 4.00	11/30/2010 12:49:29 PM	R1	=173.300	mv	--
	Number of segments	1				
	Slope	-58.10 mV/pH				
	Zero point	6.983 pH				
	Calibration temperature	22.0 oC				

Method: Titer Standardization 3/13/2008 2:15:08 PM
Start time: 11/30/2010 1:01:27 PM

lvi/30/10

Results

No.	Comment / ID	Start time	Rx	Result	Unit	Name
1/3	NaOH	11/30/2010 1:01:27 PM	R1	=0.01940	N	Titer
2/3	NaOH	11/30/2010 1:04:48 PM	R1	=0.01990	N	Titer
3/3	NaOH	11/30/2010 1:07:56 PM	R1	=0.01988	N	Titer
-/-	Titer	0.01973	R2	=0.01973	--	Mean Titer

Method: **Alkalinity2008** **alkalinity** 11/30/10 **10/16/2009 3:16:38 PM**
Start time: **11/30/2010 1:12:50 PM**

Results

No.	Comment / ID	Start time	Rx	Result	Unit	Name
1/24	icv/1011115-srm	11/30/2010 1:12:50 PM	R1	=123.480	mg/L	Alkalinity
			R2	=6.17	mL of titrant	ml of titrant
			R3	=8.844	initial pH	initial pH
2/24	icb/1011115-blk	11/30/2010 1:16:00 PM	R1	=0.980	mg/L	Alkalinity
			R2	=0.05	mL of titrant	ml of titrant
			R3	=6.040	initial pH	initial pH
3/24	c101104-01	11/30/2010 1:17:10 PM	R1	=94.700	mg/L	Alkalinity
			R2	=4.74	mL of titrant	ml of titrant
			R3	=5.828	initial pH	initial pH
4/24	1011115-dup	11/30/2010 1:19:53 PM	R1	=95.740	mg/L	Alkalinity
			R2	=4.79	mL of titrant	ml of titrant
			R3	=5.976	initial pH	initial pH
5/24	c101104-04	11/30/2010 1:22:37 PM	R1	=96.180	mg/L	Alkalinity
			R2	=4.81	mL of titrant	ml of titrant
			R3	=5.981	initial pH	initial pH
6/24	c101104-07	11/30/2010 1:25:20 PM	R1	=103.340	mg/L	Alkalinity
			R2	=5.17	mL of titrant	ml of titrant
			R3	=5.923	initial pH	initial pH
7/24	c101104-10	11/30/2010 1:28:10 PM	R1	=104.980	mg/L	Alkalinity
			R2	=5.25	mL of titrant	ml of titrant
			R3	=5.931	initial pH	initial pH
8/24	c101104-13	11/30/2010 1:31:01 PM	R1	=108.660	mg/L	Alkalinity
			R2	=5.43	mL of titrant	ml of titrant
			R3	=5.941	initial pH	initial pH
9/24	c101104-16	11/30/2010 1:33:55 PM	R1	=106.020	mg/L	Alkalinity
			R2	=5.30	mL of titrant	ml of titrant
			R3	=5.964	initial pH	initial pH
10/24	c101104-19	11/30/2010 1:36:49 PM	R1	=133.960	mg/L	Alkalinity
			R2	=6.70	mL of titrant	ml of titrant
			R3	=6.044	initial pH	initial pH

Method: **Alkalinity2008** **alkalinity** **10/16/2009 3:16:38 PM**
Start time: **11/30/2010 1:12:50 PM**

11/24	ccv1	11/30/2010 1:40:07 PM	R1 =101.900	mg/L	Alkalinity
			R2 =5.10	mL of titrant	ml of titrant
			R3 =9.989	initial pH	initial pH
12/24	ccb1	11/30/2010 1:42:46 PM	R1 =0.580	mg/L	Alkalinity
			R2 =0.03	mL of titrant	ml of titrant
			R3 =5.467	initial pH	initial pH
13/24	c101104-22	11/30/2010 1:43:56 PM	R1 =128.440	mg/L	Alkalinity
			R2 =6.42	mL of titrant	ml of titrant
			R3 =5.820	initial pH	initial pH
14/24	c101104-25	11/30/2010 1:47:11 PM	R1 =122.940	mg/L	Alkalinity
			R2 =6.15	mL of titrant	ml of titrant
			R3 =6.005	initial pH	initial pH
15/24	c101104-28	11/30/2010 1:50:22 PM	R1 =112.100	mg/L	Alkalinity
			R2 =5.60	mL of titrant	ml of titrant
			R3 =5.932	initial pH	initial pH
16/24	c101104-31	11/30/2010 1:53:23 PM	R1 =95.680	mg/L	Alkalinity
			R2 =4.78	mL of titrant	ml of titrant
			R3 =5.921	initial pH	initial pH
17/24	c101104-34	11/30/2010 1:56:09 PM	R1 =131.380	mg/L	Alkalinity
			R2 =6.57	mL of titrant	ml of titrant
			R3 =6.116	initial pH	initial pH
18/24	c101104-37	11/30/2010 1:59:25 PM	R1 =121.860	mg/L	Alkalinity
			R2 =6.09	mL of titrant	ml of titrant
			R3 =6.193	initial pH	initial pH
19/24	c101104-40	11/30/2010 2:02:34 PM	R1 =122.400	mg/L	Alkalinity
			R2 =6.12	mL of titrant	ml of titrant
			R3 =6.257	initial pH	initial pH
20/24	c101104-43	11/30/2010 2:05:44 PM	R1 =122.100	mg/L	Alkalinity
			R2 =6.10	mL of titrant	ml of titrant
			R3 =6.232	initial pH	initial pH
21/24	c101104-46	11/30/2010 2:08:51 PM	R1 =92.820	mg/L	Alkalinity
			R2 =4.64	mL of titrant	ml of titrant
			R3 =5.970	initial pH	initial pH

Method: **Alkalinity2008 alkalinity** **10/16/2009 3:16:38 PM**
Start time: **11/30/2010 1:12:50 PM**

22/24	c101104-49	11/30/2010 2:11:35 PM	R1 =104.960	mg/L	Alkalinity
			R2 =5.25	mL of titrant	ml of titrant
			R3 =5.924	initial pH	initial pH
23/24	ccv2	11/30/2010 2:14:30 PM	R1 =99.780	mg/L	Alkalinity
			R2 =4.99	mL of titrant	ml of titrant
			R3 =10.025	initial pH	initial pH
24/24	ccb2	11/30/2010 2:17:09 PM	R1 =0.940	mg/L	Alkalinity
			R2 =0.05	mL of titrant	ml of titrant
			R3 =5.563	initial pH	initial pH

Method: **Alkalinity2008 alkalinity** 11/30/10 **10/16/2009 3:16:38 PM**
Start time: **11/30/2010 3:53:53 PM**

Results

No.	Comment / ID	Start time	Rx	Result	Unit	Name
1/23	icv/1011116-srm	11/30/2010 3:53:53 PM	R1	=124.460	mg/L	Alkalinity
			R2	=6.22	mL of titrant	ml of titrant
			R3	=8.922	initial pH	initial pH
2/23	icb/1011116-blk	11/30/2010 3:57:09 PM	R1	=0.840	mg/L	Alkalinity
			R2	=0.04	mL of titrant	ml of titrant
			R3	=5.930	initial pH	initial pH
3/23	c101104-52	11/30/2010 3:58:20 PM	R1	=103.360	mg/L	Alkalinity
			R2	=5.17	mL of titrant	ml of titrant
			R3	=5.819	initial pH	initial pH
4/23	1011116-dup	11/30/2010 4:01:16 PM	R1	=104.760	mg/L	Alkalinity
			R2	=5.24	mL of titrant	ml of titrant
			R3	=5.903	initial pH	initial pH
5/23	c101104-55	11/30/2010 4:04:09 PM	R1	=130.240	mg/L	Alkalinity
			R2	=6.51	mL of titrant	ml of titrant
			R3	=5.986	initial pH	initial pH
6/23	c101104-58	11/30/2010 4:07:26 PM	R1	=109.960	mg/L	Alkalinity
			R2	=5.50	mL of titrant	ml of titrant
			R3	=6.053	initial pH	initial pH
7/23	c101104-61	11/30/2010 4:10:23 PM	R1	=111.240	mg/L	Alkalinity
			R2	=5.56	mL of titrant	ml of titrant
			R3	=6.050	initial pH	initial pH
8/23	c101104-64	11/30/2010 4:13:21 PM	R1	=1.360	mg/L	Alkalinity
			R2	=0.07	mL of titrant	ml of titrant
			R3	=5.330	initial pH	initial pH
9/23	c101104-67	11/30/2010 4:14:38 PM	R1	=127.040	mg/L	Alkalinity
			R2	=6.35	mL of titrant	ml of titrant
			R3	=5.974	initial pH	initial pH
10/23	c101104-70	11/30/2010 4:17:50 PM	R1	=109.240	mg/L	Alkalinity
			R2	=5.46	mL of titrant	ml of titrant
			R3	=6.117	initial pH	initial pH

Method: **Alkalinity2008 alkalinity** **10/16/2009 3:16:38 PM**
Start time: **11/30/2010 3:53:53 PM**

11/23	ccv1	11/30/2010 4:20:48 PM	R1 =100.940	mg/L	Alkalinity
			R2 =5.05	mL of titrant	ml of titrant
			R3 =10.359	initial pH	initial pH
12/23	ccb1	11/30/2010 4:23:27 PM	R1 =1.100	mg/L	Alkalinity
			R2 =0.06	mL of titrant	ml of titrant
			R3 =5.587	initial pH	initial pH
13/23	c101104-73	11/30/2010 4:24:39 PM	R1 =111.380	mg/L	Alkalinity
			R2 =5.57	mL of titrant	ml of titrant
			R3 =6.003	initial pH	initial pH
14/23	c101104-76	11/30/2010 4:27:40 PM	R1 =105.520	mg/L	Alkalinity
			R2 =5.28	mL of titrant	ml of titrant
			R3 =6.127	initial pH	initial pH
15/23	c101104-79	11/30/2010 4:30:38 PM	R1 =101.112	mg/L	Alkalinity
			R2 =5.06	mL of titrant	ml of titrant
			R3 =6.231	initial pH	initial pH
16/23	c101104-82	11/30/2010 4:33:32 PM	R1 =134.420	mg/L	Alkalinity
			R2 =6.72	mL of titrant	ml of titrant
			R3 =6.071	initial pH	initial pH
17/23	c101104-85	11/30/2010 4:36:52 PM	R1 =7.080	mg/L	Alkalinity
			R2 =0.35	mL of titrant	ml of titrant
			R3 =5.172	initial pH	initial pH
18/23	c101104-88	11/30/2010 4:38:23 PM	R1 =99.920	mg/L	Alkalinity
			R2 =5.00	mL of titrant	ml of titrant
			R3 =6.301	initial pH	initial pH
19/23	c101104-91	11/30/2010 4:41:13 PM	R1 =100.180	mg/L	Alkalinity
			R2 =5.01	mL of titrant	ml of titrant
			R3 =6.303	initial pH	initial pH
20/23	c101104-94	11/30/2010 4:44:05 PM	R1 =100.780	mg/L	Alkalinity
			R2 =5.04	mL of titrant	ml of titrant
			R3 =6.258	initial pH	initial pH
21/23	c101104-97	11/30/2010 4:46:57 PM	R1 =105.526	mg/L	Alkalinity
			R2 =5.28	mL of titrant	ml of titrant
			R3 =6.059	initial pH	initial pH

Method: **Alkalinity2008 alkalinity** **10/16/2009 3:16:38 PM**
Start time: **11/30/2010 3:53:53 PM**

22/23	ccv2	11/30/2010 4:50:08 PM	R1 =99.780	mg/L	Alkalinity
			R2 =4.99	mL of titrant	ml of titrant
			R3 =10.340	initial pH	initial pH
23/23	ccv2	11/30/2010 4:52:47 PM	R1 =0.937	mg/L	Alkalinity
			R2 =0.05	mL of titrant	ml of titrant
			R3 =5.369	initial pH	initial pH

PERKIN ELMER OPTIMA 4300DV ICP-OE

Project(s): Rico-Argentite Waters Nov 2010 Date: 11 / 29 / 2010

Work Order(s): C101104 TDF: DG-220 Analyst: Scott VanOverman

Batch Preparation Information

Digest / Prep
TR / Total / (Diss)

Matrix
(Water) / Soil / Other

Batch ID
101109 / 101110

Data Storage

Data File: X:/Metals Data Files/ DG220_101109_OEQ 101129

Standard Information

Calibration Std. # 1 = Reagent Blank Solution

ICV: SS-114-040 *(LIMS ID: 0092802)*
Prepped: 09/27/10 By: SW

CRQL Stock: SS-114-043 *(LIMS ID: 0092901)*
Prepped: 9-27-2010 By: SW

CRQL Daily *(LIMS ID: 0092902)*
Prepped: 11/29/10 By: SV

Calibration Std. # 2 = ESAT High, SS-114-039
Prepped: 09/27/10 By: SW

CCV: 1:2 of SS-114-039 *(LIMS ID: 0092805)*
Prepped: 11/29/10 By: SV

ICSA: SS-114-041 **Prepped: 9-27-2010**
ICSAB: SS-114-042 **Prepped: 9-27-2010**

Spike Information

Dissolved Spikes

Sample ID: C101104-03
Sample ID: C101104-54
Sample vol: 10 mL

PSS2007-219: 100 uL
QCS-3 Exp: 5-1-2011 (LIMS ID: 0092734)

SS-114-044: 100 uL
Salt Spike Prepped 9-30-2010 *(LIMS ID: 0093002)*

Tot. / Tot. Rec. Spikes

Sample ID: —
Sample Vol: — mL

PSS2007-220: — uL
WW-LFS1 Exp: 5-1-2011 *(LIMS ID: 0092735)*

PSS2007-221: — uL
WW-LFS2 Exp: 5-1-2011 *(LIMS ID: 0092736)*

Comments / Maintenance

Replace Nebulizer? Y / (N) New pump tubing? Y / (N) Replace torch or injector? Y / (N)

Analytes Reported:

Ag, (Al), As, (Ba), Be, B, (Ca), Cd, Co, Cr, Cu, (Fe), (K), (Mg),

Mn, Mo, (Na), Ni, Pb, Sb, Se, SiO2, Sr, Ti, Tl, V, (Zn)

Sequence ID: 101113

Lims Entry (Date / Init): 11/29/10 SV

TLF-06.01	SOP: QAQ-04.00	Eff. Date: 1/17/2007

ESAT Region 8

Analytical Data Review Form

Analyst / Bench Review – Level I

LIMS: C101104	Project: Rico-Argentine Waters Nov 2010	
TDF: DG-220	Matrix: water	Analysis: Dissolved metals

Method / Instrument QC Parameters				Analytical Batch / Sample Parameters	
☐ Yes ☐ No N/A	Corr. Coef. ≥ 0.995	☒ Yes ☐ No	ICV 90% - 110%	☒ Yes ☐ No	Mth. Blk. (MB) / Prep. BLK (PB) ≤ ± PQL
☒ Yes ☐ No	ICB ≤ ± PQL	☒ Yes ☐ No	CRI 70% - 130%	☒ Yes ☐ No	Blk. Spike (BS) / LCS (SRM) In Control
☒ Yes ☐ No	ICSA Spiked Analytes 80% - 120%			☒ Yes ☐ No	Laboratory Duplicate Analyzed
☒ Yes ☐ No	ICSA Non-Spiked Analytes ≤ ± PQL			☒ Yes ☐ No	MS / MSD Analyzed
☒ Yes ☐ No	ICSAB Spiked Analytes 80% - 120%			☒ Yes ☐ No	Serial Dilution Analyzed
☒ Yes ☐ No	CCBs ≤ ± PQL	☒ Yes ☐ No	CCVs 90% - 110%	☐ Yes ☐ No N/A	Post-Digest Spike Analyzed for Tot. / Tot. Rec.
☒ Yes ☐ No	QA QC Samples Internal Stds. 60% - 125%			☒ Yes ☐ No	Samples Internal Stds. 60% - 125%

Other obvious data quality issues are identified ☐ Yes ☒ No

Describe any anomaly or deficiency not indicated above in the space provided

LIMS Electronic Data Transfer

☒ Yes ☐ No	The instrument data file is uploaded to the X: drive	☒ Yes ☐ No	Instrument data are uploaded into the LIMS
☒ Yes ☐ No	All samples and QC data are present in LIMS	☒ Yes ☐ No	The analyte list for the sequence is complete
Analyst:		Date:	11/29/10

Peer Review of Analytical Analysis – Level II

Method / Instrument QC Parameters				Analytical Batch / Sample Parameters	
☐ Yes ☐ No N/A	Corr. Coef. ≥ 0.995	☒ Yes ☐ No	ICV 90% - 110%	☒ Yes ☐ No	Mth. Blk. (MB) / Prep. BLK (PB) ≤ ± PQL
☒ Yes ☐ No	ICB ≤ ± PQL	☒ Yes ☐ No	CRI 70% - 130%	☒ Yes ☐ No	Blk. Spike (BS) / LCS (SRM) In Control
☒ Yes ☐ No	ICSA Spiked Analytes 80% - 120%			☒ Yes ☐ No	Laboratory Duplicate Analyzed
☒ Yes ☐ No	ICSA Non-Spiked Analytes ≤ ± PQL			☒ Yes ☐ No	MS / MSD Analyzed
☒ Yes ☐ No	ICSAB Spiked Analytes 80% - 120%			☒ Yes ☐ No	Serial Dilution Analyzed
☒ Yes ☐ No	CCBs ≤ ± PQL	☒ Yes ☐ No	CCVs 90% - 110%	☐ Yes ☐ No N/A	Post-Digest Spike Analyzed for Tot. / Tot. Rec.
☒ Yes ☐ No	QA QC Samples Internal Stds. 60% - 125%			☒ Yes ☐ No	Samples Internal Stds. 60% - 125%

Other obvious data quality issues are identified ☐ Yes ☒ No

Describe any anomaly or deficiency not indicated above in the space provided

LIMS Electronic Data Transfer

☒ Yes ☐ No	The instrument data file is uploaded to the X: drive	☒ Yes ☐ No	Instrument data are uploaded into the LIMS
☒ Yes ☐ No	All samples and QC data are present in LIMS	☒ Yes ☐ No	The analyte list for the sequence is complete
Peer Reviewer:		Date:	12/2/2010

PREPARATION BENCH SHEET

1011109 11/29/10

TechLaw, Inc. - ESAT Region 8

Matrix: Water

Printed: 11/24/2010 11:25:36AM

Date Prepared: 11/24/10 11:24 By: SV

Prepared using: ADMIN - No Lab Prep Reqd

Lab Number	Analysis	EPA Tag ID	Initial (mL)	Final (mL)	Spike1 ID	ul Spike1	Spike2 ID	ul Spike2	Source ID	QC Code	Extraction Comments
C101104-03 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLDRBG	
C101104-06 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLDRBG DUP	
C101104-09 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLDRMZ1a	
C101104-12 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLDRMZ1b	
C101104-15 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLDRMZ1c	
C101104-18 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLDRMZ2	
C101104-21 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLPO01	
C101104-24 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLPO02	
C101104-27 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLPO03	
C101104-30 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLPO04	
C101104-33 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLPO05	
C101104-36 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLSW01	
C101104-39 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLSW02	
C101104-42 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLSW03	
C101104-45 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLSW04	
C101104-48 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLSW05	
C101104-51 A	DM-Hardness - Calculated	lo Tag Prefix-	50	50						SLSWDR3	
C101104-03 A	ICPOE Diss. Metals-2010	lo Tag Prefix-	50	50						SLDRBG	
C101104-06 A	ICPOE Diss. Metals-2010	lo Tag Prefix-	50	50						SLDRBG DUP	
C101104-09 A	ICPOE Diss. Metals-2010	lo Tag Prefix-	50	50						SLDRMZ1a	
C101104-12 A	ICPOE Diss. Metals-2010	lo Tag Prefix-	50	50						SLDRMZ1b	
C101104-15 A	ICPOE Diss. Metals-2010	lo Tag Prefix-	50	50						SLDRMZ1c	
C101104-18 A	ICPOE Diss. Metals-2010	lo Tag Prefix-	50	50						SLDRMZ2	

PREPARATION BENCH SHEET

1011109

TechLaw, Inc. - ESAT Region 8

Matrix: Water

Printed: 11/24/2010 11:25:36AM

Date Prepared: 11/24/10 11:24 By: SV

Prepared using: ADMIN - No Lab Prep Reqd

Lab Number	Analysis	EPA Tag ID	Initial (mL)	Final (mL)	Spike1 ID	ul Spike1	Spike2 ID	ul Spike2	Source ID	QC Code	Extraction Comments
C101104-21 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLPO01	
C101104-24 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLPO02	
C101104-27 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLPO03	
C101104-30 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLPO04	
C101104-33 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLPO05	
C101104-36 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLSW01	
C101104-39 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLSW02	
C101104-42 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLSW03	
C101104-45 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLSW04	
C101104-48 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLSW05	
C101104-51 A	ICPOE Diss. Metals-2010	Io Tag Prefix-(	50	50						SLSWDR3	
1011109-BLK1	QC		50	50						Blank	
1011109-BS1	QC		10	10	0100114	100				LCS	
1011109-DUP1	QC		50	50					C101104-03	Duplicate	
1011109-MS1	QC		10	10	0100114	100			C101104-03	Matrix Spike	
1011109-MSD1	QC		10	10	0100114	100			C101104-03	Matrix Spike Dup	

PREPARATION BENCH SHEET

1011110

11/29/10

TechLaw, Inc. - ESAT Region 8

Matrix: Water

Printed: 11/24/2010 11:26:55AM

Date Prepared: 11/24/10 11:25 By: SV

Prepared using: ADMIN - No Lab Prep Reqd

Lab Number	Analysis	EPA Tag ID	Initial (mL)	Final (mL)	Spike1 ID	ul Spike1	Spike2 ID	ul Spike2	Source ID	QC Code	Extraction Comments
C101104-54 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWDR4	
C101104-57 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWDR6	
C101104-60 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWDR7b	
C101104-63 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWDR7c	
C101104-66 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWFB	
C101104-69 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP06	
C101104-72 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP07a	
C101104-75 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP07b	
C101104-78 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP08	
C101104-81 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP09	
C101104-84 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP10	
C101104-87 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP11	
C101104-90 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP12	
C101104-93 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP14	
C101104-96 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWP15	
C101104-99 A	DM-Hardness - Calculated	No Tag Prefix-	50	50						SLSWPP	
C101104-54 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWDR4	
C101104-57 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWDR6	
C101104-60 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWDR7b	
C101104-63 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWDR7c	
C101104-66 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWFB	
C101104-69 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWP06	
C101104-72 A	ICPOE Diss. Metals-2010	No Tag Prefix-	50	50						SLSWP07a	

PREPARATION BENCH SHEET

1011110

TechLaw, Inc. - ESAT Region 8

Matrix: Water

Printed: 11/24/2010 11:26:55AM

Date Prepared: 11/24/10 11:25 By: SV

Prepared using: ADMIN - No Lab Prep Reqd

Lab Number	Analysis	EPA Tag ID	Initial (mL)	Final (mL)	Spike1 ID	ul Spike1	Spike2 ID	ul Spike2	Source ID	QC Code	Extraction Comments
C101104-75 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP07b	
C101104-78 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP08	
C101104-81 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP09	
C101104-84 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP10	
C101104-87 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP11	
C101104-90 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP12	
C101104-93 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP14	
C101104-96 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWP15	
C101104-99 A	ICPOE Diss. Metals-2010	No Tag Prefix-(	50	50						SLSWPP	
1011110-BLK1	QC		50	50						Blank	
1011110-BS1	QC		10	10	0100114	100				LCS	
1011110-DUP1	QC		50	50					C101104-54	Duplicate	
1011110-MS1	QC		10	10	0100114	100			C101104-54	Matrix Spike	
1011110-MSD1	QC		10	10	0100114	100			C101104-54	Matrix Spike Dup	

ANALYSIS SEQUENCE

1011113 11/29/10

Instrument: ICPOE - PE Optima Sequence Date: 11/29/10 00:00 Printed: 11/29/2010 11:11:35AM

Lab Number	Dilut. Factor	Analysis	STD ID	Sample/Std Name	EPA Tag ID	Source Sple	Comments
1011113-ICV1		QC	0092802	Initial Cal Check		-	
1011113-ICB1		QC		Initial Cal Blank		-	
1011113-CRL1		QC	0092902	MRL Check		-	
1011113-IFA1		QC	0092803	Interference Check A		-	
1011113-IFB1		QC	0092804	Interference Check B		-	
1011113-CCV1		QC	0092805	Calibration Check		-	
1011113-CCB1		QC		Calibration Blank		-	
1011109-BLK1		QC		Blank		-	
1011109-BS1		QC		LCS		-	
C101104-03 A		DM-Hardness - Calculated		SLDRBG	No Tag Prefix-C		
C101104-03 A		ICPOE Diss. Metals-2010		SLDRBG	No Tag Prefix-C		
1011109-DUP1		QC		Duplicate		C101104-03	
1011113-SRD1		QC		Serial Dilution		C101104-03	
1011109-MS1		QC		Matrix Spike		C101104-03	
1011109-MSD1		QC		Matrix Spike Dup		C101104-03	
C101104-06 A		DM-Hardness - Calculated		SLDRBG DUP	No Tag Prefix-C		
C101104-06 A		ICPOE Diss. Metals-2010		SLDRBG DUP	No Tag Prefix-C		
C101104-09 A		DM-Hardness - Calculated		SLDRMZ1a	No Tag Prefix-C		
C101104-09 A		ICPOE Diss. Metals-2010		SLDRMZ1a	No Tag Prefix-C		
1011113-CCV2		QC	0092805	Calibration Check		-	
1011113-CCB2		QC		Calibration Blank		-	
C101104-12 A		DM-Hardness - Calculated		SLDRMZ1b	No Tag Prefix-C		
C101104-12 A		ICPOE Diss. Metals-2010		SLDRMZ1b	No Tag Prefix-C		
C101104-15 A		DM-Hardness - Calculated		SLDRMZ1c	No Tag Prefix-C		
C101104-15 A		ICPOE Diss. Metals-2010		SLDRMZ1c	No Tag Prefix-C		
C101104-18 A		DM-Hardness - Calculated		SLDRMZ2	No Tag Prefix-C		
C101104-18 A		ICPOE Diss. Metals-2010		SLDRMZ2	No Tag Prefix-C		
C101104-21 A		DM-Hardness - Calculated		SLPO01	No Tag Prefix-C		
C101104-21 A		ICPOE Diss. Metals-2010		SLPO01	No Tag Prefix-C		
C101104-24 A		DM-Hardness - Calculated		SLPO02	No Tag Prefix-C		
C101104-24 A		ICPOE Diss. Metals-2010		SLPO02	No Tag Prefix-C		
C101104-27 A		DM-Hardness - Calculated		SLPO03	No Tag Prefix-C		
C101104-27 A		ICPOE Diss. Metals-2010		SLPO03	No Tag Prefix-C		
C101104-30 A		DM-Hardness - Calculated		SLPO04	No Tag Prefix-C		
C101104-30 A		ICPOE Diss. Metals-2010		SLPO04	No Tag Prefix-C		
C101104-33 A		DM-Hardness - Calculated		SLPO05	No Tag Prefix-C		
C101104-33 A		ICPOE Diss. Metals-2010		SLPO05	No Tag Prefix-C		
C101104-36 A		DM-Hardness - Calculated		SLSW01	No Tag Prefix-C		
C101104-36 A		ICPOE Diss. Metals-2010		SLSW01	No Tag Prefix-C		
1011113-CCV3		QC	0092805	Calibration Check		-	

ANALYSIS SEQUENCE

1011113

Instrument: ICPOE - PE Optima Sequence Date: 11/29/10 00:00 Printed: 11/29/2010 11:11:35AM

Lab Number	Dilut. Factor	Analysis	STD ID	Sample/Std Name	EPA Tag ID	Source Sple	Comments
1011113-CCB3		QC		Calibration Blank		-	
C101104-39 A		DM-Hardness - Calculated		SLSW02	No Tag Prefix-C		
C101104-39 A		ICPOE Diss. Metals-2010		SLSW02	No Tag Prefix-C		
C101104-42 A		DM-Hardness - Calculated		SLSW03	No Tag Prefix-C		
C101104-42 A		ICPOE Diss. Metals-2010		SLSW03	No Tag Prefix-C		
C101104-45 A		DM-Hardness - Calculated		SLSW04	No Tag Prefix-C		
C101104-45 A		ICPOE Diss. Metals-2010		SLSW04	No Tag Prefix-C		
C101104-48 A		DM-Hardness - Calculated		SLSW05	No Tag Prefix-C		
C101104-48 A		ICPOE Diss. Metals-2010		SLSW05	No Tag Prefix-C		
C101104-51 A		DM-Hardness - Calculated		SLSWDR3	No Tag Prefix-C		
C101104-51 A		ICPOE Diss. Metals-2010		SLSWDR3	No Tag Prefix-C		
1011110-BLK1		QC		Blank		-	
1011110-BS1		QC		LCS		-	
C101104-54 A		DM-Hardness - Calculated		SLSWDR4	No Tag Prefix-C		
C101104-54 A		ICPOE Diss. Metals-2010		SLSWDR4	No Tag Prefix-C		
1011110-DUP1		QC		Duplicate		C101104-54	
1011113-CCV4		QC	0092805	Calibration Check		-	
1011113-CCB4		QC		Calibration Blank		-	
1011113-SRD2		QC		Serial Dilution		C101104-54	
1011110-MS1		QC		Matrix Spike		C101104-54	
1011110-MSD1		QC		Matrix Spike Dup		C101104-54	
C101104-57 A		DM-Hardness - Calculated		SLSWDR6	No Tag Prefix-C		
C101104-57 A		ICPOE Diss. Metals-2010		SLSWDR6	No Tag Prefix-C		
C101104-60 A		DM-Hardness - Calculated		SLSWDR7b	No Tag Prefix-C		
C101104-60 A		ICPOE Diss. Metals-2010		SLSWDR7b	No Tag Prefix-C		
C101104-63 A		DM-Hardness - Calculated		SLSWDR7c	No Tag Prefix-C		
C101104-63 A		ICPOE Diss. Metals-2010		SLSWDR7c	No Tag Prefix-C		
C101104-66 A		DM-Hardness - Calculated		SLSWFB	No Tag Prefix-C		
C101104-66 A		ICPOE Diss. Metals-2010		SLSWFB	No Tag Prefix-C		
C101104-69 A		DM-Hardness - Calculated		SLSWP06	No Tag Prefix-C		
C101104-69 A		ICPOE Diss. Metals-2010		SLSWP06	No Tag Prefix-C		
C101104-72 A		DM-Hardness - Calculated		SLSWP07a	No Tag Prefix-C		
C101104-72 A		ICPOE Diss. Metals-2010		SLSWP07a	No Tag Prefix-C		
1011113-CCV5		QC	0092805	Calibration Check		-	
1011113-CCB5		QC		Calibration Blank		-	
C101104-75 A		DM-Hardness - Calculated		SLSWP07b	No Tag Prefix-C		
C101104-75 A		ICPOE Diss. Metals-2010		SLSWP07b	No Tag Prefix-C		
C101104-78 A		DM-Hardness - Calculated		SLSWP08	No Tag Prefix-C		
C101104-78 A		ICPOE Diss. Metals-2010		SLSWP08	No Tag Prefix-C		
C101104-81 A		DM-Hardness - Calculated		SLSWP09	No Tag Prefix-C		

ANALYSIS SEQUENCE

1011113

Instrument: ICPOE - PE Optima Sequence Date: 11/29/10 00:00 Printed: 11/29/2010 11:11:35AM

Lab Number	Dilut. Factor	Analysis	STD ID	Sample/Std Name	EPA Tag ID	Source Sple	Comments
C101104-81 A		ICPOE Diss. Metals-2010		SLSWP09	No Tag Prefix-C		
C101104-84 A		DM-Hardness - Calculated		SLSWP10	No Tag Prefix-C		
C101104-84 A		ICPOE Diss. Metals-2010		SLSWP10	No Tag Prefix-C		
C101104-87 A		DM-Hardness - Calculated		SLSWP11	No Tag Prefix-C		
C101104-87 A		ICPOE Diss. Metals-2010		SLSWP11	No Tag Prefix-C		
C101104-90 A		DM-Hardness - Calculated		SLSWP12	No Tag Prefix-C		
C101104-90 A		ICPOE Diss. Metals-2010		SLSWP12	No Tag Prefix-C		
C101104-93 A		DM-Hardness - Calculated		SLSWP14	No Tag Prefix-C		
C101104-93 A		ICPOE Diss. Metals-2010		SLSWP14	No Tag Prefix-C		
C101104-96 A		DM-Hardness - Calculated		SLSWP15	No Tag Prefix-C		
C101104-96 A		ICPOE Diss. Metals-2010		SLSWP15	No Tag Prefix-C		
C101104-99 A		DM-Hardness - Calculated		SLSWPP	No Tag Prefix-C		
C101104-99 A		ICPOE Diss. Metals-2010		SLSWPP	No Tag Prefix-C		
1011113-CCV6		QC	0092805	Calibration Check		-	
1011113-CCB6		QC		Calibration Blank		-	

Analytical Sequence

Method : ESAT_2009_1.1

11/29/10

Seq.	Loc.		Sample ID
1	1		Cal Blank
2	9		High Std
3	10	QC	SEQ-ICV
4	1	QC	SEQ-ICB
5	11	QC	SEQ-CRL
6	12	QC	SEQ-IFA
7	13	QC	SEQ-IFB
8	3	QC	SEQ-CCV 1
9	1	QC	SEQ-CCB 1
10	26		1011109-BLK1
11	27		1011109-BS1
12	28		C101104-03
13	29		1011109-DUP1
14	30		SEQ-SRD1 @5X
15	31		1011109-MS1
16	32		1011109-MSD1
17	33		C101104-06
18	34		C101104-09
19	35		Blank
20	3	QC	SEQ-CCV 2
21	1	QC	SEQ-CCB 2
22	36		C101104-12
23	37		C101104-15
24	38		C101104-18
25	39		C101104-21
26	40		C101104-24
27	41		C101104-27
28	42		C101104-30
29	43		C101104-33
30	44		C101104-36
31	45		Blank
32	3	QC	SEQ-CCV 3
33	1	QC	SEQ-CCB 3
34	46		C101104-39
35	47		C101104-42
36	48		C101104-45
37	49		C101104-48
38	50		C101104-51
39	51		1011110-BLK1
40	52		1011110-BS1
41	53		C101104-54
42	54		1011110-DUP1
43	55		Blank
44	3	QC	SEQ-CCV 4
45	1	QC	SEQ-CCB 4
46	56		SEQ-SRD1 @5X
47	57		1011110-MS1
48	58		1011110-MSD1
49	59		C101104-57
50	60		C101104-60
51	61		C101104-63
52	62		C101104-66
53	63		C101104-69
54	64		C101104-72
55	65		Blank
56	3	QC	SEQ-CCV 5

Analytical Sequence

Method : ESAT_2009_1.1

Seq.	Loc.		Sample ID
57	1	QC	SEQ-CCB 5
58	66		C101104-75
59	67		C101104-78
60	68		C101104-81
61	69		C101104-84
62	70		C101104-87
63	71		C101104-90
64	72		C101104-93
65	73		C101104-96
66	74		C101104-99
67	75		Blank
68	3	QC	SEQ-CCV 6
69	1	QC	SEQ-CCB 6

Sample Information Detail Report
Document Name: DG220_1011109_OED_101129

File Description
DG-220 Rico-Argentine Waters 2010

Parameters Common to All Samples

Batch ID	1011109/1011110
Analyst Name	Walker
Volume Units	mL
Weight Units	g

Parameters That Vary By Sample

Sample No	A/S Location	Sample ID	Remarks
1	26	1011109-BLK1	
2	27	1011109-BS1	
3	28	C101104-03	
4	29	1011109-DUP1	
5	30	SEQ-SRD1 @5X	
6	31	1011109-MS1	
7	32	1011109-MSD1	
8	33	C101104-06	
9	34	C101104-09	
10	35	Blank	
11	36	C101104-12	
12	37	C101104-15	
13	38	C101104-18	
14	39	C101104-21	
15	40	C101104-24	
16	41	C101104-27	
17	42	C101104-30	
18	43	C101104-33	
19	44	C101104-36	
20	45	Blank	
21	46	C101104-39	
22	47	C101104-42	
23	48	C101104-45	
24	49	C101104-48	
25	50	C101104-51	
26	51	1011110-BLK1	
27	52	1011110-BS1	
28	53	C101104-54	
29	54	1011110-DUP1	
30	55	Blank	
31	56	SEQ-SRD1 @5X	
32	57	1011110-MS1	
33	58	1011110-MSD1	
34	59	C101104-57	
35	60	C101104-60	
36	61	C101104-63	
37	62	C101104-66	
38	63	C101104-69	
39	64	C101104-72	
40	65	Blank	
41	66	C101104-75	
42	67	C101104-78	
43	68	C101104-81	
44	69	C101104-84	
45	70	C101104-87	
46	71	C101104-90	
47	72	C101104-93	
48	73	C101104-96	
49	74	C101104-99	
50	75	Blank	

Sample No	Aliquot Volume	Diluted To Vol.	Matrix Check Sample
1			
2			Recovery 3 of 1
3			

4			
5	2	10	Duplicate of 3
6			5X Dilution of 3
7			Recovery 3 of 3
8			Recovery 3 of 3
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			Recovery 3 of 26
28			
29			Duplicate of 28
30			
31	2	10	5X Dilution of 28
32			Recovery 3 of 28
33			Recovery 3 of 28
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			

lw 11/29/10

Analysis Begun

Start Time: 11/29/2010 7:37:57 AM
Logged In Analyst: esat
Spectrometer Model: Optima 4300 DV, S/N 077N3082602
Plasma On Time: 11/29/2010 6:29:07 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Administrator\Sample Information\2010\DG220_1011109_OED_101129.sif
Batch ID: 1011109/1011110
Results Data Set: DG220_1011109_101129
Results Library: C:\pe\Administrator\Results\Results.mdb

Sequence No.: 1
Sample ID: Cal Blank
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 1
Date Collected: 11/29/2010 7:37:58 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: Cal Blank

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: Cal Blank

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc Axial	2450827.2	10476.22	0.43%	100.00	%
Sc Radial	299727.1	762.79	0.25%	100.0	%
Ag 328.068†	-225.6	11.70	5.19%	[0.00]	ug/L
Al 396.153†	32.7	11.34	34.65%	[0.00]	ug/L
As 193.696†	-7.5	1.43	18.91%	[0.00]	ug/L
Ba 233.527†	-18.2	1.24	6.81%	[0.00]	ug/L
Be 313.107†	-120.3	8.11	6.74%	[0.00]	ug/L
B 249.677†	-303.5	5.11	1.68%	[0.00]	ug/L
Ca 317.933†	1.3	1.02	77.29%	[0.00]	ug/L
Cd 214.440†	-12.5	1.04	8.28%	[0.00]	ug/L
Co 228.616†	-42.0	3.04	7.24%	[0.00]	ug/L
Cr 267.716†	6.4	0.44	6.78%	[0.00]	ug/L
Cu 324.752†	550.5	11.19	2.03%	[0.00]	ug/L
Fe 238.204†	11.9	0.94	7.87%	[0.00]	ug/L
K 766.490†	350.5	35.02	9.99%	[0.00]	ug/L
Mg 285.213†	20.6	2.79	13.57%	[0.00]	ug/L
Mn 257.610†	35.4	6.86	19.40%	[0.00]	ug/L
Mo 202.031†	-5.1	0.58	11.56%	[0.00]	ug/L
Na 589.592†	209.9	20.06	9.56%	[0.00]	ug/L
Ni 231.604†	28.6	0.27	0.96%	[0.00]	ug/L
Pb 220.353†	-1.0	2.80	283.75%	[0.00]	ug/L
Sb 206.836†	12.9	1.21	9.36%	[0.00]	ug/L
Se 196.026†	-0.1	4.02	>999.9%	[0.00]	ug/L
SiO2 251.603†	162.8	8.68	5.33%	[0.00]	ug/L
Sr 421.552†	-28.3	15.81	55.91%	[0.00]	ug/L
Ti 334.940†	14.6	4.42	30.20%	[0.00]	ug/L
Tl 190.801†	-5.7	1.21	21.06%	[0.00]	ug/L
V 290.880†	2315.4	15.45	0.67%	[0.00]	ug/L
Zn 206.200†	-0.9	1.26	133.84%	[0.00]	ug/L

Sequence No.: 2
Sample ID: High Std
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 11/29/2010 7:41:01 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: High Std

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: High Std

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc Axial	2430883.0	8687.95	0.36%	99.19	%
Sc Radial	303406.5	1879.93	0.62%	101.2	%
Ag 328.068†	30727.1	153.28	0.50%	[500]	ug/L
Al 396.153†	116443.3	707.41	0.61%	[25000]	ug/L
As 193.696†	495.1	3.61	0.73%	[5000]	ug/L
Ba 233.527†	11965.4	85.65	0.72%	[1000]	ug/L
Be 313.107†	274045.8	1355.44	0.49%	[1000]	ug/L
B 249.677†	65122.9	672.40	1.03%	[10000]	ug/L
Ca 317.933†	72046.9	440.00	0.61%	[25000]	ug/L
Cd 214.440†	3275.6	11.96	0.37%	[1000]	ug/L
Co 228.616†	4253.8	16.70	0.39%	[1000]	ug/L
Cr 267.716†	31550.8	193.01	0.61%	[5000]	ug/L
Cu 324.752†	192036.4	138.11	0.07%	[2000]	ug/L
Fe 238.204†	3502.0	36.77	1.05%	[25000]	ug/L
K 766.490†	87938.3	306.40	0.35%	[50000]	ug/L
Mg 285.213†	160474.0	918.42	0.57%	[25000]	ug/L
Mn 257.610†	273982.2	2092.45	0.76%	[2000]	ug/L
Mo 202.031†	492.3	1.01	0.21%	[1000]	ug/L
Na 589.592†	136069.1	490.41	0.36%	[25000]	ug/L
Ni 231.604†	9025.7	83.20	0.92%	[5000]	ug/L
Pb 220.353†	2214.0	4.07	0.18%	[5000]	ug/L
Sb 206.836†	1297.8	3.17	0.24%	[5000]	ug/L
Se 196.026†	424.2	4.08	0.96%	[5000]	ug/L
SiO2 251.603†	66283.2	296.56	0.45%	[20000]	ug/L
Sr 421.552†	1526631.8	3304.58	0.22%	[1000]	ug/L
Ti 334.940†	211398.2	1311.36	0.62%	[1000]	ug/L
Tl 190.801†	1224.2	3.13	0.26%	[5000]	ug/L
V 290.880†	56636.9	419.27	0.74%	[2000]	ug/L
Zn 206.200†	5291.5	69.96	1.32%	[5000]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	61.45	0.00000	1.000000	
Al 396.153	1	Lin, Calc Int	0.0	4.658	0.00000	1.000000	
As 193.696	1	Lin Thru 0	0.0	0.0990	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	11.97	0.00000	1.000000	
Be 313.107	1	Lin Thru 0	0.0	274.0	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	6.512	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	2.882	0.00000	1.000000	
Cd 214.440	1	Lin Thru 0	0.0	3.276	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	4.254	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	6.310	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	96.02	0.00000	1.000000	
Fe 238.204	1	Lin, Calc Int	0.0	0.1401	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	1.759	0.00000	1.000000	
Mg 285.213	1	Lin, Calc Int	0.0	6.419	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	137.0	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	0.4923	0.00000	1.000000	
Na 589.592	1	Lin, Calc Int	0.0	5.443	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	1.805	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	0.4428	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	0.2596	0.00000	1.000000	

Se 196.026	1	Lin Thru 0	0.0	0.0848	0.00000	1.000000
SiO2 251.603	1	Lin, Calc Int	0.0	3.314	0.00000	1.000000
Sr 421.552	1	Lin, Calc Int	0.0	1527	0.00000	1.000000
Ti 334.940	1	Lin Thru 0	0.0	211.4	0.00000	1.000000
Tl 190.801	1	Lin Thru 0	0.0	0.2448	0.00000	1.000000
V 290.880	1	Lin Thru 0	0.0	28.32	0.00000	1.000000
Zn 206.200	1	Lin Thru 0	0.0	1.058	0.00000	1.000000

Sequence No.: 3
Sample ID: SEQ-ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 11/29/2010 7:44:09 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-ICV

Analyte	Back Pressure	Flow
All	117.0 kPa	0.80 L/min

Mean Data: SEQ-ICV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2509142.7	102.4	%	0.42				0.41%
Sc Radial	306225.1	102.2	%	0.69				0.67%
Ag 328.068†	15587.7	257.2	ug/L	0.37	257.2	ug/L	0.37	0.14%
QC value within limits for Ag 328.068 Recovery = 102.88%								
Al 396.153†	4779.7	1004	ug/L	12.5	1004	ug/L	12.5	1.25%
QC value within limits for Al 396.153 Recovery = 100.42%								
As 193.696†	194.3	1981	ug/L	16.6	1981	ug/L	16.6	0.84%
QC value within limits for As 193.696 Recovery = 99.07%								
Ba 233.527†	12049.7	1005	ug/L	1.6	1005	ug/L	1.6	0.16%
QC value within limits for Ba 233.527 Recovery = 100.51%								
Be 313.107†	271979.8	992.3	ug/L	1.65	992.3	ug/L	1.65	0.17%
QC value within limits for Be 313.107 Recovery = 99.23%								
B 249.677†	6934.5	1065	ug/L	4.7	1065	ug/L	4.7	0.44%
QC value within limits for B 249.677 Recovery = 106.48%								
Ca 317.933†	2906.9	955.3	ug/L	4.84	955.3	ug/L	4.84	0.51%
QC value within limits for Ca 317.933 Recovery = 95.53%								
Cd 214.440†	3343.9	1021	ug/L	3.6	1021	ug/L	3.6	0.35%
QC value within limits for Cd 214.440 Recovery = 102.08%								
Co 228.616†	4328.2	1018	ug/L	2.9	1018	ug/L	2.9	0.28%
QC value within limits for Co 228.616 Recovery = 101.84%								
Cr 267.716†	6306.0	1000	ug/L	4.1	1000	ug/L	4.1	0.41%
QC value within limits for Cr 267.716 Recovery = 100.04%								
Cu 324.752†	95071.9	991.9	ug/L	3.11	991.9	ug/L	3.11	0.31%
QC value within limits for Cu 324.752 Recovery = 99.19%								
Fe 238.204†	136.7	962.1	ug/L	10.38	962.1	ug/L	10.38	1.08%
QC value within limits for Fe 238.204 Recovery = 96.21%								
K 766.490†	9000.2	4874	ug/L	42.8	4874	ug/L	42.8	0.88%
QC value within limits for K 766.490 Recovery = 97.49%								
Mg 285.213†	6601.3	1019	ug/L	7.3	1019	ug/L	7.3	0.71%
QC value within limits for Mg 285.213 Recovery = 101.91%								
Mn 257.610†	139572.9	1018	ug/L	1.2	1018	ug/L	1.2	0.12%
QC value within limits for Mn 257.610 Recovery = 101.80%								
Mo 202.031†	496.2	1008	ug/L	4.3	1008	ug/L	4.3	0.43%
QC value within limits for Mo 202.031 Recovery = 100.79%								
Na 589.592†	5704.9	965.7	ug/L	15.19	965.7	ug/L	15.19	1.57%
QC value within limits for Na 589.592 Recovery = 96.57%								
Ni 231.604†	1833.3	1018	ug/L	7.6	1018	ug/L	7.6	0.75%
QC value within limits for Ni 231.604 Recovery = 101.75%								
Pb 220.353†	898.3	2022	ug/L	8.6	2022	ug/L	8.6	0.43%
QC value within limits for Pb 220.353 Recovery = 101.08%								
Sb 206.836†	524.6	2015	ug/L	7.8	2015	ug/L	7.8	0.39%
QC value within limits for Sb 206.836 Recovery = 100.76%								
Se 196.026†	85.7	1012	ug/L	30.0	1012	ug/L	30.0	2.96%
QC value within limits for Se 196.026 Recovery = 101.16%								
SiO2 251.603†	16499.9	4923	ug/L	9.5	4923	ug/L	9.5	0.19%
QC value within limits for SiO2 251.603 Recovery = 98.46%								
Sr 421.552†	1561146.0	1023	ug/L	3.3	1023	ug/L	3.3	0.32%
QC value within limits for Sr 421.552 Recovery = 102.26%								
Ti 334.940†	212146.3	1004	ug/L	0.8	1004	ug/L	0.8	0.08%
QC value within limits for Ti 334.940 Recovery = 100.35%								
Tl 190.801†	1237.1	5058	ug/L	21.4	5058	ug/L	21.4	0.42%
QC value within limits for Tl 190.801 Recovery = 101.17%								
V 290.880†	28033.6	991.5	ug/L	3.35	991.5	ug/L	3.35	0.34%
QC value within limits for V 290.880 Recovery = 99.15%								

Zn 206.200†	1051.7	986.0 ug/L	8.92	986.0 ug/L	8.92	0.90%

QC value within limits for Zn 206.200 Recovery = 98.60%

All analyte(s) passed QC.

Sequence No.: 4
Sample ID: SEQ-ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 11/29/2010 7:47:17 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-ICB

Analyte	Back Pressure	Flow
All	116.0 kPa	0.80 L/min

Mean Data: SEQ-ICB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2511539.5	102.5	%	0.47				0.45%
Sc Radial	310523.7	103.6	%	1.24				1.20%
Ag 328.068†	8.2	0.1405	ug/L	0.20158	0.1405	ug/L	0.20158	143.45%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	-1.6	-0.7355	ug/L	2.63084	-0.7355	ug/L	2.63084	357.70%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 193.696†	0.3	2.649	ug/L	9.7738	2.649	ug/L	9.7738	368.96%
QC value within limits for As 193.696 Recovery = Not calculated								
Ba 233.527†	-0.1	-0.0187	ug/L	0.12057	-0.0187	ug/L	0.12057	646.14%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	12.7	0.0456	ug/L	0.01965	0.0456	ug/L	0.01965	43.10%
QC value within limits for Be 313.107 Recovery = Not calculated								
B 249.677†	268.1	41.17	ug/L	2.578	41.17	ug/L	2.578	6.26%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 317.933†	1.8	0.5303	ug/L	1.72811	0.5303	ug/L	1.72811	325.87%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 214.440†	0.6	0.1972	ug/L	0.37193	0.1972	ug/L	0.37193	188.61%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	0.3	0.0684	ug/L	0.38559	0.0684	ug/L	0.38559	563.31%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-0.6	-0.0953	ug/L	0.24033	-0.0953	ug/L	0.24033	252.22%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 324.752†	12.6	0.1338	ug/L	0.29429	0.1338	ug/L	0.29429	219.87%
QC value within limits for Cu 324.752 Recovery = Not calculated								
Fe 238.204†	0.7	4.719	ug/L	5.4441	4.719	ug/L	5.4441	115.36%
QC value within limits for Fe 238.204 Recovery = Not calculated								
K 766.490†	63.4	36.08	ug/L	12.580	36.08	ug/L	12.580	34.87%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	0.8	0.1089	ug/L	0.18918	0.1089	ug/L	0.18918	173.68%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	9.2	0.0628	ug/L	0.04181	0.0628	ug/L	0.04181	66.56%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.9	7.913	ug/L	0.5836	7.913	ug/L	0.5836	7.37%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	21.4	3.746	ug/L	3.1989	3.746	ug/L	3.1989	85.39%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-1.5	-0.8094	ug/L	1.21970	-0.8094	ug/L	1.21970	150.69%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	0.3	0.7438	ug/L	11.45580	0.7438	ug/L	11.45580	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.3	1.217	ug/L	5.9174	1.217	ug/L	5.9174	486.37%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.4	28.17	ug/L	14.804	28.17	ug/L	14.804	52.55%
QC value within limits for Se 196.026 Recovery = Not calculated								
SiO2 251.603†	1.0	0.2402	ug/L	0.40663	0.2402	ug/L	0.40663	169.28%
QC value within limits for SiO2 251.603 Recovery = Not calculated								
Sr 421.552†	56.5	0.037	ug/L	0.0024	0.037	ug/L	0.0024	6.46%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 334.940†	103.6	0.490	ug/L	0.0420	0.490	ug/L	0.0420	8.56%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-0.2	-0.744	ug/L	10.3809	-0.744	ug/L	10.3809	>999.9%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-43.6	-1.502	ug/L	0.3804	-1.502	ug/L	0.3804	25.32%
QC value within limits for V 290.880 Recovery = Not calculated								

Zn 206.200†	1.7	1.545 ug/L	0.5561	1.545 ug/L	0.5561	35.99%

QC value within limits for Zn 206.200 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 5
Sample ID: SEQ-CRL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 11/29/2010 7:50:20 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-CRL

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-CRL

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc Axial	2521949.6	102.9	%	0.80				0.78%
Sc Radial	313438.7	104.6	%	0.99				0.95%
Ag 328.068†	631.0	10.37	ug/L	0.229	10.37	ug/L	0.229	2.21%
QC value within limits for Ag 328.068 Recovery = 103.70%								
Al 396.153†	471.5	101.2	ug/L	1.57	101.2	ug/L	1.57	1.55%
QC value within limits for Al 396.153 Recovery = 101.21%								
As 193.696†	5.5	56.49	ug/L	14.366	56.49	ug/L	14.366	25.43%
QC value within limits for As 193.696 Recovery = 112.98%								
Ba 233.527†	125.5	10.43	ug/L	0.179	10.43	ug/L	0.179	1.71%
QC value within limits for Ba 233.527 Recovery = 104.31%								
Be 313.107†	1401.8	5.109	ug/L	0.0470	5.109	ug/L	0.0470	0.92%
QC value within limits for Be 313.107 Recovery = 102.18%								
B 249.677†	1744.4	267.9	ug/L	2.01	267.9	ug/L	2.01	0.75%
QC value within limits for B 249.677 Recovery = 107.15%								
Ca 317.933†	737.4	254.2	ug/L	4.23	254.2	ug/L	4.23	1.66%
QC value within limits for Ca 317.933 Recovery = 101.68%								
Cd 214.440†	36.5	11.15	ug/L	0.270	11.15	ug/L	0.270	2.42%
QC value within limits for Cd 214.440 Recovery = 111.51%								
Co 228.616†	45.6	10.76	ug/L	0.160	10.76	ug/L	0.160	1.49%
QC value within limits for Co 228.616 Recovery = 107.57%								
Cr 267.716†	60.6	9.655	ug/L	0.0966	9.655	ug/L	0.0966	1.00%
QC value within limits for Cr 267.716 Recovery = 96.55%								
Cu 324.752†	948.9	9.923	ug/L	0.3443	9.923	ug/L	0.3443	3.47%
QC value within limits for Cu 324.752 Recovery = 99.23%								
Fe 238.204†	14.1	99.55	ug/L	10.617	99.55	ug/L	10.617	10.67%
QC value within limits for Fe 238.204 Recovery = 99.55%								
K 766.490†	1849.5	1049	ug/L	19.7	1049	ug/L	19.7	1.88%
QC value within limits for K 766.490 Recovery = 104.86%								
Mg 285.213†	6684.7	1041	ug/L	10.3	1041	ug/L	10.3	0.99%
QC value within limits for Mg 285.213 Recovery = 104.11%								
Mn 257.610†	1420.2	10.33	ug/L	0.131	10.33	ug/L	0.131	1.27%
QC value within limits for Mn 257.610 Recovery = 103.25%								
Mo 202.031†	5.2	10.61	ug/L	1.032	10.61	ug/L	1.032	9.73%
QC value within limits for Mo 202.031 Recovery = 106.11%								
Na 589.592†	5679.0	1041	ug/L	15.9	1041	ug/L	15.9	1.53%
QC value within limits for Na 589.592 Recovery = 104.10%								
Ni 231.604†	19.5	10.84	ug/L	0.221	10.84	ug/L	0.221	2.04%
QC value within limits for Ni 231.604 Recovery = 108.44%								
Pb 220.353†	10.0	22.27	ug/L	5.098	22.27	ug/L	5.098	22.89%
QC value within limits for Pb 220.353 Recovery = 74.25%								
Sb 206.836†	10.0	38.44	ug/L	10.760	38.44	ug/L	10.760	27.99%
QC value within limits for Sb 206.836 Recovery = 76.88%								
Se 196.026†	10.7	126.3	ug/L	21.19	126.3	ug/L	21.19	16.77%
QC value within limits for Se 196.026 Recovery = 126.32%								
SiO2 251.603†	818.2	246.2	ug/L	1.90	246.2	ug/L	1.90	0.77%
QC value within limits for SiO2 251.603 Recovery = 98.47%								
Sr 421.552†	16151.2	10.58	ug/L	0.136	10.58	ug/L	0.136	1.28%
QC value within limits for Sr 421.552 Recovery = 105.80%								
Ti 334.940†	10816.7	51.17	ug/L	0.466	51.17	ug/L	0.466	0.91%
QC value within limits for Ti 334.940 Recovery = 102.33%								
Tl 190.801†	13.9	57.24	ug/L	10.961	57.24	ug/L	10.961	19.15%
QC value within limits for Tl 190.801 Recovery = 114.48%								
V 290.880†	1369.7	48.27	ug/L	0.398	48.27	ug/L	0.398	0.82%
QC value within limits for V 290.880 Recovery = 96.55%								

Zn 206.200†	56.6	53.21 ug/L	0.836	53.21 ug/L	0.836	1.57%

QC value within limits for Zn 206.200 Recovery = 106.42%

All analyte(s) passed QC.

Sequence No.: 6
Sample ID: SEQ-IFA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 11/29/2010 7:53:25 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-IFA

Analyte	Back Pressure	Flow
All	116.0 kPa	0.80 L/min

Mean Data: SEQ-IFA

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc Axial	2347455.9	95.78	%	0.340				0.35%
Sc Radial	304131.6	101.5	%	0.46				0.45%
Ag 328.068†	-554.5	6.161	ug/L	0.3828	6.161	ug/L	0.3828	6.21%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	285649.3	61260	ug/L	387.6	61260	ug/L	387.6	0.63%
QC value within limits for Al 396.153 Recovery = 102.09%								
As 193.696†	-11.3	-5.916	ug/L	30.6957	-5.916	ug/L	30.6957	518.88%
QC value within limits for As 193.696 Recovery = Not calculated								
Ba 233.527†	29.2	-2.802	ug/L	0.5102	-2.802	ug/L	0.5102	18.21%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-13.2	-0.7856	ug/L	0.05393	-0.7856	ug/L	0.05393	6.86%
QC value within limits for Be 313.107 Recovery = Not calculated								
B 249.677†	-832.6	-127.8	ug/L	1.07	-127.8	ug/L	1.07	0.84%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 317.933†	841846.7	292100	ug/L	1223.7	292100	ug/L	1223.7	0.42%
QC value within limits for Ca 317.933 Recovery = 97.36%								
Cd 214.440†	-12.6	-3.392	ug/L	0.4977	-3.392	ug/L	0.4977	14.68%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	31.2	4.065	ug/L	1.4661	4.065	ug/L	1.4661	36.07%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-21.3	2.863	ug/L	0.4843	2.863	ug/L	0.4843	16.91%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 324.752†	-97.1	-0.8254	ug/L	0.09334	-0.8254	ug/L	0.09334	11.31%
QC value within limits for Cu 324.752 Recovery = Not calculated								
Fe 238.204†	32936.1	235100	ug/L	2766.2	235100	ug/L	2766.2	1.18%
QC value within limits for Fe 238.204 Recovery = 94.03%								
K 766.490†	89.2	-50.85	ug/L	20.768	-50.85	ug/L	20.768	40.84%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	922531.8	143700	ug/L	767.3	143700	ug/L	767.3	0.53%
QC value within limits for Mg 285.213 Recovery = 95.83%								
Mn 257.610†	541.4	1.443	ug/L	0.2704	1.443	ug/L	0.2704	18.74%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	2.3	5.341	ug/L	6.7121	5.341	ug/L	6.7121	125.68%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	278637.9	51070	ug/L	512.0	51070	ug/L	512.0	1.00%
QC value within limits for Na 589.592 Recovery = 102.14%								
Ni 231.604†	32.8	3.157	ug/L	2.2443	3.157	ug/L	2.2443	71.09%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-23.9	-18.91	ug/L	14.108	-18.91	ug/L	14.108	74.60%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	16.4	55.46	ug/L	16.070	55.46	ug/L	16.070	28.98%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.7	68.66	ug/L	51.345	68.66	ug/L	51.345	74.78%
QC value within limits for Se 196.026 Recovery = Not calculated								
SiO2 251.603†	-58.4	62.95	ug/L	1.690	62.95	ug/L	1.690	2.68%
QC value within limits for SiO2 251.603 Recovery = Not calculated								
Sr 421.552†	4322.5	2.831	ug/L	0.0138	2.831	ug/L	0.0138	0.49%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 334.940†	42.9	0.203	ug/L	0.0673	0.203	ug/L	0.0673	33.14%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	0.9	-7.823	ug/L	3.4949	-7.823	ug/L	3.4949	44.67%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	704.3	-5.538	ug/L	1.6638	-5.538	ug/L	1.6638	30.05%
QC value within limits for V 290.880 Recovery = Not calculated								

Zn 206.200†	4.0	2.843 ug/L	2.3613	2.843 ug/L	2.3613	83.05%

QC value within limits for Zn 206.200 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 7
Sample ID: SEQ-IFB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 11/29/2010 7:57:08 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-IFB

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-IFB

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc Axial	2332430.2	95.17	%	0.614				0.65%
Sc Radial	307310.4	102.5	%	1.08				1.05%
Ag 328.068†	18371.4	316.2	ug/L	1.89	316.2	ug/L	1.89	0.60%
QC value within limits for Ag 328.068 Recovery = 105.39%								
Al 396.153†	282069.6	60500	ug/L	1208.3	60500	ug/L	1208.3	2.00%
QC value within limits for Al 396.153 Recovery = 100.83%								
As 193.696†	85.1	969.9	ug/L	34.28	969.9	ug/L	34.28	3.53%
QC value within limits for As 193.696 Recovery = 96.99%								
Ba 233.527†	3541.2	289.4	ug/L	1.30	289.4	ug/L	1.30	0.45%
QC value within limits for Ba 233.527 Recovery = 96.46%								
Be 313.107†	26499.8	95.87	ug/L	0.684	95.87	ug/L	0.684	0.71%
QC value within limits for Be 313.107 Recovery = 95.87%								
B 249.677†	2396.4	368.0	ug/L	9.18	368.0	ug/L	9.18	2.50%
QC value less than the lower limit for B 249.677 Recovery = 73.60%								
Ca 317.933†	830194.1	288000	ug/L	6931.1	288000	ug/L	6931.1	2.41%
QC value within limits for Ca 317.933 Recovery = 96.00%								
Cd 214.440†	948.3	289.9	ug/L	0.72	289.9	ug/L	0.72	0.25%
QC value within limits for Cd 214.440 Recovery = 96.64%								
Co 228.616†	1261.1	293.6	ug/L	0.70	293.6	ug/L	0.70	0.24%
QC value within limits for Co 228.616 Recovery = 97.87%								
Cr 267.716†	1796.7	291.8	ug/L	1.85	291.8	ug/L	1.85	0.64%
QC value within limits for Cr 267.716 Recovery = 97.28%								
Cu 324.752†	29396.5	307.1	ug/L	3.91	307.1	ug/L	3.91	1.27%
QC value within limits for Cu 324.752 Recovery = 102.36%								
Fe 238.204†	32504.6	232000	ug/L	3386.6	232000	ug/L	3386.6	1.46%
QC value within limits for Fe 238.204 Recovery = 92.79%								
K 766.490†	35563.8	19980	ug/L	211.0	19980	ug/L	211.0	1.06%
QC value within limits for K 766.490 Recovery = 99.90%								
Mg 285.213†	913643.9	142400	ug/L	2913.5	142400	ug/L	2913.5	2.05%
QC value within limits for Mg 285.213 Recovery = 94.91%								
Mn 257.610†	27069.5	194.7	ug/L	1.70	194.7	ug/L	1.70	0.87%
QC value within limits for Mn 257.610 Recovery = 97.36%								
Mo 202.031†	144.1	293.9	ug/L	7.35	293.9	ug/L	7.35	2.50%
QC value within limits for Mo 202.031 Recovery = 97.98%								
Na 589.592†	275042.1	50360	ug/L	843.2	50360	ug/L	843.2	1.67%
QC value within limits for Na 589.592 Recovery = 100.72%								
Ni 231.604†	536.4	283.6	ug/L	2.41	283.6	ug/L	2.41	0.85%
QC value within limits for Ni 231.604 Recovery = 94.52%								
Pb 220.353†	411.9	959.4	ug/L	3.45	959.4	ug/L	3.45	0.36%
QC value within limits for Pb 220.353 Recovery = 95.94%								
Sb 206.836†	249.6	949.2	ug/L	23.63	949.2	ug/L	23.63	2.49%
QC value within limits for Sb 206.836 Recovery = 94.92%								
Se 196.026†	45.1	573.1	ug/L	80.83	573.1	ug/L	80.83	14.11%
QC value within limits for Se 196.026 Recovery = 114.61%								
SiO2 251.603†	1656.8	520.2	ug/L	4.37	520.2	ug/L	4.37	0.84%
QC value within limits for SiO2 251.603 Recovery = 104.04%								
Sr 421.552†	1552517.5	1017	ug/L	2.1	1017	ug/L	2.1	0.21%
QC value within limits for Sr 421.552 Recovery = 101.70%								
Ti 334.940†	216009.2	1022	ug/L	8.7	1022	ug/L	8.7	0.85%
QC value within limits for Ti 334.940 Recovery = 102.18%								
Tl 190.801†	243.7	982.5	ug/L	5.73	982.5	ug/L	5.73	0.58%
QC value within limits for Tl 190.801 Recovery = 98.25%								
V 290.880†	9257.8	295.3	ug/L	3.84	295.3	ug/L	3.84	1.30%
QC value within limits for V 290.880 Recovery = 98.43%								

Zn 206.200†	297.6	275.4 ug/L	0.84	275.4 ug/L	0.84	0.30%

QC value within limits for Zn 206.200 Recovery = 91.82%
QC Failed. Continue with analysis.

Sequence No.: 8
Sample ID: SEQ-CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 11/29/2010 8:00:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-CCV

Analyte	Back Pressure	Flow
All	116.0 kPa	0.80 L/min

Mean Data: SEQ-CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc Axial	2498709.2	102.0	%	0.51				0.50%
Sc Radial	314554.4	104.9	%	0.64				0.61%
Ag 328.068†	15533.8	256.8	ug/L	2.25	256.8	ug/L	2.25	0.88%
QC value within limits for Ag 328.068 Recovery = 102.72%								
Al 396.153†	59311.2	12730	ug/L	40.3	12730	ug/L	40.3	0.32%
QC value within limits for Al 396.153 Recovery = 101.84%								
As 193.696†	250.5	2560	ug/L	36.8	2560	ug/L	36.8	1.44%
QC value within limits for As 193.696 Recovery = 102.42%								
Ba 233.527†	6033.8	501.4	ug/L	4.13	501.4	ug/L	4.13	0.82%
QC value within limits for Ba 233.527 Recovery = 100.27%								
Be 313.107†	141242.6	515.2	ug/L	0.84	515.2	ug/L	0.84	0.16%
QC value within limits for Be 313.107 Recovery = 103.03%								
B 249.677†	32778.8	5033	ug/L	38.5	5033	ug/L	38.5	0.77%
QC value within limits for B 249.677 Recovery = 100.67%								
Ca 317.933†	36761.4	12690	ug/L	46.8	12690	ug/L	46.8	0.37%
QC value within limits for Ca 317.933 Recovery = 101.55%								
Cd 214.440†	1692.8	516.8	ug/L	5.91	516.8	ug/L	5.91	1.14%
QC value within limits for Cd 214.440 Recovery = 103.35%								
Co 228.616†	2193.5	516.2	ug/L	3.53	516.2	ug/L	3.53	0.68%
QC value within limits for Co 228.616 Recovery = 103.25%								
Cr 267.716†	15635.2	2479	ug/L	35.0	2479	ug/L	35.0	1.41%
QC value within limits for Cr 267.716 Recovery = 99.16%								
Cu 324.752†	98136.5	1024	ug/L	2.7	1024	ug/L	2.7	0.26%
QC value within limits for Cu 324.752 Recovery = 102.37%								
Fe 238.204†	1773.5	12630	ug/L	46.4	12630	ug/L	46.4	0.37%
QC value within limits for Fe 238.204 Recovery = 101.05%								
K 766.490†	44718.6	25270	ug/L	99.3	25270	ug/L	99.3	0.39%
QC value within limits for K 766.490 Recovery = 101.07%								
Mg 285.213†	82321.9	12810	ug/L	48.6	12810	ug/L	48.6	0.38%
QC value within limits for Mg 285.213 Recovery = 102.51%								
Mn 257.610†	139203.4	1015	ug/L	8.3	1015	ug/L	8.3	0.82%
QC value within limits for Mn 257.610 Recovery = 101.51%								
Mo 202.031†	247.5	501.7	ug/L	0.92	501.7	ug/L	0.92	0.18%
QC value within limits for Mo 202.031 Recovery = 100.35%								
Na 589.592†	69751.6	12700	ug/L	44.9	12700	ug/L	44.9	0.35%
QC value within limits for Na 589.592 Recovery = 101.61%								
Ni 231.604†	4602.0	2551	ug/L	35.2	2551	ug/L	35.2	1.38%
QC value within limits for Ni 231.604 Recovery = 102.03%								
Pb 220.353†	1148.3	2586	ug/L	27.9	2586	ug/L	27.9	1.08%
QC value within limits for Pb 220.353 Recovery = 103.44%								
Sb 206.836†	655.8	2494	ug/L	12.5	2494	ug/L	12.5	0.50%
QC value within limits for Sb 206.836 Recovery = 99.76%								
Se 196.026†	225.8	2665	ug/L	46.4	2665	ug/L	46.4	1.74%
QC value within limits for Se 196.026 Recovery = 106.59%								
SiO2 251.603†	33482.7	10090	ug/L	99.5	10090	ug/L	99.5	0.99%
QC value within limits for SiO2 251.603 Recovery = 100.87%								
Sr 421.552†	794593.6	520.5	ug/L	0.43	520.5	ug/L	0.43	0.08%
QC value within limits for Sr 421.552 Recovery = 104.10%								
Ti 334.940†	107257.5	507.4	ug/L	0.36	507.4	ug/L	0.36	0.07%
QC value within limits for Ti 334.940 Recovery = 101.47%								
Tl 190.801†	634.3	2594	ug/L	1.8	2594	ug/L	1.8	0.07%
QC value within limits for Tl 190.801 Recovery = 103.75%								
V 290.880†	28318.3	998.4	ug/L	11.63	998.4	ug/L	11.63	1.16%
QC value within limits for V 290.880 Recovery = 99.84%								

Zn 206.200†	2716.3	2561 ug/L	26.9	2561 ug/L	26.9	1.05%

QC value within limits for Zn 206.200 Recovery = 102.42%

All analyte(s) passed QC.

Sequence No.: 9
Sample ID: SEQ-CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 11/29/2010 8:04:00 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-CCB

Analyte	Back Pressure	Flow
All	116.0 kPa	0.80 L/min

Mean Data: SEQ-CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2520617.8	102.8	%	0.61				0.59%
Sc Radial	311314.5	103.9	%	0.87				0.84%
Ag 328.068†	10.4	0.1771	ug/L	0.04272	0.1771	ug/L	0.04272	24.13%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	5.2	0.8182	ug/L	0.67406	0.8182	ug/L	0.67406	82.38%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 193.696†	0.1	1.370	ug/L	9.0247	1.370	ug/L	9.0247	658.61%
QC value within limits for As 193.696 Recovery = Not calculated								
Ba 233.527†	1.6	0.1150	ug/L	0.06847	0.1150	ug/L	0.06847	59.55%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	6.8	0.0238	ug/L	0.05720	0.0238	ug/L	0.05720	240.21%
QC value within limits for Be 313.107 Recovery = Not calculated								
B 249.677†	317.8	48.79	ug/L	4.184	48.79	ug/L	4.184	8.57%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 317.933†	3.1	0.9202	ug/L	0.43621	0.9202	ug/L	0.43621	47.40%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 214.440†	0.1	0.0193	ug/L	0.46680	0.0193	ug/L	0.46680	>999.9%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	0.8	0.1820	ug/L	0.06618	0.1820	ug/L	0.06618	36.36%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-0.2	-0.0259	ug/L	0.30632	-0.0259	ug/L	0.30632	>999.9%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 324.752†	57.9	0.6079	ug/L	0.04883	0.6079	ug/L	0.04883	8.03%
QC value within limits for Cu 324.752 Recovery = Not calculated								
Fe 238.204†	5.4	38.73	ug/L	17.301	38.73	ug/L	17.301	44.67%
QC value within limits for Fe 238.204 Recovery = Not calculated								
K 766.490†	59.3	33.35	ug/L	20.044	33.35	ug/L	20.044	60.10%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	9.9	1.510	ug/L	0.6200	1.510	ug/L	0.6200	41.07%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	9.9	0.0670	ug/L	0.01514	0.0670	ug/L	0.01514	22.62%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.4	6.930	ug/L	1.0673	6.930	ug/L	1.0673	15.40%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-14.8	-2.976	ug/L	4.7126	-2.976	ug/L	4.7126	158.38%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-0.0	-0.0097	ug/L	0.67369	-0.0097	ug/L	0.67369	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-2.3	-5.222	ug/L	11.8860	-5.222	ug/L	11.8860	227.59%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	6.5	25.14	ug/L	10.640	25.14	ug/L	10.640	42.32%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.3	26.89	ug/L	46.334	26.89	ug/L	46.334	172.31%
QC value within limits for Se 196.026 Recovery = Not calculated								
SiO2 251.603†	9.1	2.771	ug/L	0.1315	2.771	ug/L	0.1315	4.75%
QC value within limits for SiO2 251.603 Recovery = Not calculated								
Sr 421.552†	56.6	0.037	ug/L	0.0064	0.037	ug/L	0.0064	17.32%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 334.940†	60.8	0.288	ug/L	0.0346	0.288	ug/L	0.0346	12.03%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-0.3	-1.506	ug/L	13.6811	-1.506	ug/L	13.6811	908.51%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-50.4	-1.757	ug/L	0.4178	-1.757	ug/L	0.4178	23.78%
QC value within limits for V 290.880 Recovery = Not calculated								

Zn 206.200†	1.9	1.741 ug/L	1.1960	1.741 ug/L	1.1960	68.70%

QC value within limits for Zn 206.200 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: 1011109-BLK1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 26
Date Collected: 11/29/2010 8:07:03 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011109-BLK1

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: 1011109-BLK1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2514925.7	102.6	%	0.29				0.28%
Sc Radial	310742.0	103.7	%	1.26				1.22%
Ag 328.068†	27.7	0.4539	ug/L	0.24330	0.4539	ug/L	0.24330	53.60%
Al 396.153†	-1.9	-0.5729	ug/L	2.94080	-0.5729	ug/L	2.94080	513.29%
As 193.696†	0.4	4.055	ug/L	20.1992	4.055	ug/L	20.1992	498.11%
Ba 233.527†	1.3	0.1046	ug/L	0.05705	0.1046	ug/L	0.05705	54.55%
Be 313.107†	-10.4	-0.0384	ug/L	0.02084	-0.0384	ug/L	0.02084	54.24%
B 249.677†	150.7	23.15	ug/L	1.162	23.15	ug/L	1.162	5.02%
Ca 317.933†	-1.7	-0.6523	ug/L	3.98143	-0.6523	ug/L	3.98143	610.35%
Cd 214.440†	1.9	0.5848	ug/L	0.28358	0.5848	ug/L	0.28358	48.49%
Co 228.616†	2.6	0.6165	ug/L	0.93344	0.6165	ug/L	0.93344	151.41%
Cr 267.716†	-1.7	-0.2707	ug/L	0.24419	-0.2707	ug/L	0.24419	90.22%
Cu 324.752†	51.8	0.5410	ug/L	0.01414	0.5410	ug/L	0.01414	2.61%
Fe 238.204†	3.0	21.14	ug/L	8.557	21.14	ug/L	8.557	40.48%
K 766.490†	49.4	28.11	ug/L	7.328	28.11	ug/L	7.328	26.07%
Mg 285.213†	-4.5	-0.7155	ug/L	0.13602	-0.7155	ug/L	0.13602	19.01%
Mn 257.610†	-4.8	-0.0366	ug/L	0.01976	-0.0366	ug/L	0.01976	53.97%
Mo 202.031†	1.5	3.019	ug/L	2.1263	3.019	ug/L	2.1263	70.42%
Na 589.592†	-48.7	-9.041	ug/L	3.3315	-9.041	ug/L	3.3315	36.85%
Ni 231.604†	0.9	0.4822	ug/L	1.62380	0.4822	ug/L	1.62380	336.75%
Pb 220.353†	-2.3	-5.252	ug/L	1.9795	-5.252	ug/L	1.9795	37.69%
Sb 206.836†	2.1	8.160	ug/L	2.8256	8.160	ug/L	2.8256	34.63%
Se 196.026†	0.7	8.503	ug/L	12.9807	8.503	ug/L	12.9807	152.66%
SiO2 251.603†	128.3	38.65	ug/L	0.447	38.65	ug/L	0.447	1.16%
Sr 421.552†	-7.5	-0.005	ug/L	0.0063	-0.005	ug/L	0.0063	128.69%
Ti 334.940†	30.0	0.142	ug/L	0.0074	0.142	ug/L	0.0074	5.19%
Tl 190.801†	-0.0	-0.105	ug/L	8.2143	-0.105	ug/L	8.2143	>999.9%
V 290.880†	-55.7	-1.957	ug/L	0.1429	-1.957	ug/L	0.1429	7.30%
Zn 206.200†	1.0	0.909	ug/L	0.3356	0.909	ug/L	0.3356	36.92%

Sequence No.: 11
Sample ID: 1011109-BS1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 27
Date Collected: 11/29/2010 8:10:06 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011109-BS1

Analyte	Back Pressure	Flow
All	117.0 kPa	0.80 L/min

Mean Data: 1011109-BS1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2514144.0	102.6	%	0.56				0.54%
Sc Radial	314996.6	105.1	%	0.24				0.23%
Ag 328.068†	6120.0	101.3	ug/L	0.64	101.3	ug/L	0.64	0.63%
Al 396.153†	48787.9	10480	ug/L	85.9	10480	ug/L	85.9	0.82%
As 193.696†	7.5	87.86	ug/L	27.124	87.86	ug/L	27.124	30.87%
Ba 233.527†	1195.3	98.91	ug/L	0.589	98.91	ug/L	0.589	0.60%
Be 313.107†	27795.5	101.4	ug/L	0.60	101.4	ug/L	0.60	0.59%
B 249.677†	0.8	0.1187	ug/L	0.57101	0.1187	ug/L	0.57101	481.13%
Ca 317.933†	29453.3	10200	ug/L	25.0	10200	ug/L	25.0	0.25%
Cd 214.440†	336.6	102.8	ug/L	0.79	102.8	ug/L	0.79	0.77%
Co 228.616†	422.6	99.43	ug/L	1.009	99.43	ug/L	1.009	1.01%
Cr 267.716†	614.3	98.04	ug/L	1.234	98.04	ug/L	1.234	1.26%
Cu 324.752†	9277.6	96.99	ug/L	0.513	96.99	ug/L	0.513	0.53%
Fe 238.204†	1450.7	10340	ug/L	21.1	10340	ug/L	21.1	0.20%
K 766.490†	18360.9	10380	ug/L	50.6	10380	ug/L	50.6	0.49%
Mg 285.213†	66941.9	10430	ug/L	82.0	10430	ug/L	82.0	0.79%
Mn 257.610†	13720.8	99.77	ug/L	0.243	99.77	ug/L	0.243	0.24%
Mo 202.031†	46.2	94.23	ug/L	6.446	94.23	ug/L	6.446	6.84%
Na 589.592†	57310.4	10500	ug/L	55.1	10500	ug/L	55.1	0.52%
Ni 231.604†	176.7	97.75	ug/L	0.302	97.75	ug/L	0.302	0.31%
Pb 220.353†	40.5	90.57	ug/L	1.963	90.57	ug/L	1.963	2.17%
Sb 206.836†	19.4	71.78	ug/L	3.558	71.78	ug/L	3.558	4.96%
Se 196.026†	47.1	557.2	ug/L	39.76	557.2	ug/L	39.76	7.14%
SiO2 251.603†	49.5	-3.185	ug/L	0.7157	-3.185	ug/L	0.7157	22.48%
Sr 421.552†	819879.6	537.1	ug/L	0.78	537.1	ug/L	0.78	0.14%
Ti 334.940†	-43.0	-0.203	ug/L	0.0096	-0.203	ug/L	0.0096	4.70%
Tl 190.801†	25.9	103.7	ug/L	2.14	103.7	ug/L	2.14	2.06%
V 290.880†	2704.1	92.95	ug/L	0.288	92.95	ug/L	0.288	0.31%
Zn 206.200†	108.4	100.4	ug/L	1.53	100.4	ug/L	1.53	1.53%

Matrix Recovery Check: 1011109-BS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Al 396.153	10100	10480	85.917	ug/L	103.8
Ca 317.933	10100	10200	24.999	ug/L	101.0
Fe 238.204	10120	10340	21.085	ug/L	102.2
K 766.490	10130	10380	50.559	ug/L	102.4
Mg 285.213	10100	10430	82.026	ug/L	103.3
Na 589.592	10090	10500	55.061	ug/L	104.1
Ag 328.068	100.5	101.3	0.642	ug/L	100.9
As 193.696	104.1	87.86	27.124	ug/L	83.8
Ba 233.527	100.1	98.91	0.589	ug/L	98.8
Be 313.107	99.96	101.4	0.596	ug/L	101.4
Cd 214.440	100.6	102.8	0.788	ug/L	102.2
Co 228.616	100.6	99.43	1.009	ug/L	98.8
Cr 267.716	99.73	98.04	1.234	ug/L	98.3
Cu 324.752	100.5	96.99	0.513	ug/L	96.4
Mn 257.610	99.96	99.77	0.243	ug/L	99.8
Mo 202.031	103.0	94.23	6.446	ug/L	91.2
Ni 231.604	100.5	97.75	0.302	ug/L	97.3
Pb 220.353	94.75	90.57	1.963	ug/L	95.8
Sb 206.836	108.2	71.78	3.558	ug/L	63.6
Se 196.026	508.5	557.2	39.761	ug/L	109.7

SiO2 251.603	5039	-3.185	0.716	ug/L	-0.8
Sr 421.552	500.0	537.1	0.778	ug/L	107.4
Tl 190.801	99.90	103.7	2.141	ug/L	103.8
V 290.880	98.04	92.95	0.288	ug/L	94.9
Zn 206.200	100.9	100.4	1.534	ug/L	99.5

Sequence No.: 12
Sample ID: C101104-03
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 28
Date Collected: 11/29/2010 8:13:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-03

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-03

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2488888.7	101.6	%	0.34				0.34%
Sc Radial	310758.2	103.7	%	1.00				0.96%
Ag 328.068†	3.8	0.7664	ug/L	0.14018	0.7664	ug/L	0.14018	18.29%
Al 396.153†	108.8	15.53	ug/L	0.909	15.53	ug/L	0.909	5.85%
As 193.696†	-7.3	-74.41	ug/L	7.856	-74.41	ug/L	7.856	10.56%
Ba 233.527†	812.4	67.18	ug/L	0.378	67.18	ug/L	0.378	0.56%
Be 313.107†	-5.7	-0.1036	ug/L	0.00919	-0.1036	ug/L	0.00919	8.88%
B 249.677†	-27.9	-4.283	ug/L	0.0612	-4.283	ug/L	0.0612	1.43%
Ca 317.933†	122421.0	42470	ug/L	255.6	42470	ug/L	255.6	0.60%
Cd 214.440†	0.6	0.2142	ug/L	0.32497	0.2142	ug/L	0.32497	151.72%
Co 228.616†	1.6	0.5661	ug/L	0.25157	0.5661	ug/L	0.25157	44.44%
Cr 267.716†	-2.9	0.1090	ug/L	0.11235	0.1090	ug/L	0.11235	103.10%
Cu 324.752†	89.6	1.109	ug/L	0.1740	1.109	ug/L	0.1740	15.68%
Fe 238.204†	5.4	32.72	ug/L	23.982	32.72	ug/L	23.982	73.29%
K 766.490†	1163.9	650.7	ug/L	8.15	650.7	ug/L	8.15	1.25%
Mg 285.213†	41318.1	6435	ug/L	30.5	6435	ug/L	30.5	0.47%
Mn 257.610†	1998.5	14.32	ug/L	0.079	14.32	ug/L	0.079	0.55%
Mo 202.031†	4.1	7.834	ug/L	3.5939	7.834	ug/L	3.5939	45.88%
Na 589.592†	14923.6	2733	ug/L	25.8	2733	ug/L	25.8	0.94%
Ni 231.604†	-0.3	-0.2071	ug/L	1.27420	-0.2071	ug/L	1.27420	615.18%
Pb 220.353†	-5.3	-12.01	ug/L	11.552	-12.01	ug/L	11.552	96.22%
Sb 206.836†	-0.2	-3.298	ug/L	10.5790	-3.298	ug/L	10.5790	320.78%
Se 196.026†	10.1	116.9	ug/L	13.28	116.9	ug/L	13.28	11.36%
SiO2 251.603†	19350.3	5836	ug/L	56.1	5836	ug/L	56.1	0.96%
Sr 421.552†	563087.0	368.8	ug/L	0.38	368.8	ug/L	0.38	0.10%
Ti 334.940†	-26.9	-0.127	ug/L	0.0360	-0.127	ug/L	0.0360	28.24%
Tl 190.801†	-0.6	-5.384	ug/L	7.1372	-5.384	ug/L	7.1372	132.55%
V 290.880†	-40.4	-2.801	ug/L	0.4172	-2.801	ug/L	0.4172	14.90%
Zn 206.200†	3.4	2.661	ug/L	1.4713	2.661	ug/L	1.4713	55.29%

Sequence No.: 13
Sample ID: 1011109-DUP1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 29
Date Collected: 11/29/2010 8:16:14 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011109-DUP1

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: 1011109-DUP1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2509161.0	102.4	%	0.32				0.32%
Sc Radial	310833.0	103.7	%	0.96				0.93%
Ag 328.068†	14.4	0.9276	ug/L	0.31755	0.9276	ug/L	0.31755	34.23%
Al 396.153†	103.2	14.41	ug/L	1.689	14.41	ug/L	1.689	11.72%
As 193.696†	-4.6	-47.27	ug/L	30.165	-47.27	ug/L	30.165	63.81%
Ba 233.527†	810.1	67.00	ug/L	0.496	67.00	ug/L	0.496	0.74%
Be 313.107†	-15.4	-0.1385	ug/L	0.06853	-0.1385	ug/L	0.06853	49.46%
B 249.677†	-40.3	-6.196	ug/L	0.4245	-6.196	ug/L	0.4245	6.85%
Ca 317.933†	121868.4	42280	ug/L	85.1	42280	ug/L	85.1	0.20%
Cd 214.440†	-0.0	0.0306	ug/L	0.77997	0.0306	ug/L	0.77997	>999.9%
Co 228.616†	3.3	0.9617	ug/L	0.61341	0.9617	ug/L	0.61341	63.79%
Cr 267.716†	-3.0	0.0994	ug/L	0.18068	0.0994	ug/L	0.18068	181.84%
Cu 324.752†	87.2	1.075	ug/L	0.1137	1.075	ug/L	0.1137	10.57%
Fe 238.204†	3.5	19.19	ug/L	22.975	19.19	ug/L	22.975	119.72%
K 766.490†	1146.0	640.5	ug/L	10.13	640.5	ug/L	10.13	1.58%
Mg 285.213†	41160.2	6410	ug/L	19.9	6410	ug/L	19.9	0.31%
Mn 257.610†	1978.0	14.18	ug/L	0.061	14.18	ug/L	0.061	0.43%
Mo 202.031†	3.4	6.521	ug/L	0.8372	6.521	ug/L	0.8372	12.84%
Na 589.592†	14909.2	2731	ug/L	18.3	2731	ug/L	18.3	0.67%
Ni 231.604†	-1.4	-0.8160	ug/L	1.21712	-0.8160	ug/L	1.21712	149.16%
Pb 220.353†	-6.0	-13.47	ug/L	11.002	-13.47	ug/L	11.002	81.70%
Sb 206.836†	-1.9	-9.656	ug/L	2.3892	-9.656	ug/L	2.3892	24.74%
Se 196.026†	6.7	76.03	ug/L	40.232	76.03	ug/L	40.232	52.92%
SiO2 251.603†	19219.2	5796	ug/L	16.9	5796	ug/L	16.9	0.29%
Sr 421.552†	563971.6	369.4	ug/L	0.52	369.4	ug/L	0.52	0.14%
Ti 334.940†	-24.9	-0.118	ug/L	0.0225	-0.118	ug/L	0.0225	19.11%
Tl 190.801†	-2.0	-10.87	ug/L	7.231	-10.87	ug/L	7.231	66.56%
V 290.880†	-66.7	-3.716	ug/L	0.0705	-3.716	ug/L	0.0705	1.90%
Zn 206.200†	3.6	2.839	ug/L	0.8608	2.839	ug/L	0.8608	30.32%

Duplicate Check: 1011109-DUP1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Sc Radial	103.7	103.7	0.964	%	0.0
Al 396.153	15.53	14.41	1.689	ug/L	7.5
Ca 317.933	42470	42280	85.144	ug/L	0.5
Fe 238.204	32.72	19.19	22.975	ug/L	52.1
K 766.490	650.7	640.5	10.129	ug/L	1.6
Mg 285.213	6435	6410	19.896	ug/L	0.4
Na 589.592	2733	2731	18.274	ug/L	0.1
Sc Axial	101.6	102.4	0.325	%	0.8
Ag 328.068	0.7664	0.9276	0.318	ug/L	19.0
As 193.696	-74.41	-47.27	30.165	ug/L	-44.6
Ba 233.527	67.18	67.00	0.496	ug/L	0.3
Be 313.107	-0.1036	-0.1385	0.069	ug/L	-28.9
B 249.677	-4.283	-6.196	0.425	ug/L	-36.5
Cd 214.440	0.2142	0.0306	0.780	ug/L	150.0
Co 228.616	0.5661	0.9617	0.613	ug/L	51.8
Cr 267.716	0.1090	0.0994	0.181	ug/L	9.2
Cu 324.752	1.109	1.075	0.114	ug/L	3.1
Mn 257.610	14.32	14.18	0.061	ug/L	1.0
Mo 202.031	7.834	6.521	0.837	ug/L	18.3
Ni 231.604	-0.2071	-0.8160	1.217	ug/L	-119.0

Pb 220.353	-12.01	-13.47	11.002	ug/L	-11.5
Sb 206.836	-3.298	-9.656	2.389	ug/L	-98.2
Se 196.026	116.9	76.03	40.232	ug/L	42.4
SiO2 251.603	5836	5796	16.930	ug/L	0.7
Sr 421.552	368.8	369.4	0.520	ug/L	0.2
Ti 334.940	-0.127	-0.118	0.023	ug/L	-7.8
Tl 190.801	-5.384	-10.87	7.231	ug/L	-67.5
V 290.880	-2.801	-3.716	0.071	ug/L	-28.1
Zn 206.200	2.661	2.839	0.861	ug/L	6.5

Sequence No.: 14
Sample ID: SEQ-SRD1 @5X
Analyst: Walker
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 30
Date Collected: 11/29/2010 8:19:18 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-SRD1 @5X

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-SRD1 @5X

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2514289.1	102.6	%	0.61				0.59%
Sc Radial	311578.4	104.0	%	0.67				0.65%
Ag 328.068†	24.2	0.5377	ug/L	0.09838	2.689	ug/L	0.4919	18.29%
Al 396.153†	11.6	0.8890	ug/L	1.78505	4.445	ug/L	8.9253	200.78%
As 193.696†	-1.1	-10.98	ug/L	3.451	-54.92	ug/L	17.255	31.42%
Ba 233.527†	163.7	13.53	ug/L	0.116	67.66	ug/L	0.582	0.86%
Be 313.107†	-9.2	-0.0503	ug/L	0.00779	-0.2513	ug/L	0.03896	15.50%
B 249.677†	1.8	0.2803	ug/L	0.30784	1.402	ug/L	1.5392	109.81%
Ca 317.933†	24288.2	8427	ug/L	78.8	42130	ug/L	393.8	0.93%
Cd 214.440†	0.1	0.0411	ug/L	0.18686	0.2056	ug/L	0.93432	454.38%
Co 228.616†	-1.0	-0.2080	ug/L	0.72339	-1.040	ug/L	3.6169	347.74%
Cr 267.716†	-1.8	-0.1774	ug/L	0.34162	-0.8871	ug/L	1.70811	192.56%
Cu 324.752†	40.5	0.4601	ug/L	0.18710	2.301	ug/L	0.9355	40.66%
Fe 238.204†	1.4	8.768	ug/L	4.4495	43.84	ug/L	22.248	50.75%
K 766.490†	244.2	136.2	ug/L	16.61	681.2	ug/L	83.04	12.19%
Mg 285.213†	8198.1	1277	ug/L	15.4	6384	ug/L	76.9	1.21%
Mn 257.610†	391.9	2.806	ug/L	0.0985	14.03	ug/L	0.492	3.51%
Mo 202.031†	1.7	3.446	ug/L	1.7987	17.23	ug/L	8.994	52.20%
Na 589.592†	2937.5	537.8	ug/L	6.17	2689	ug/L	30.9	1.15%
Ni 231.604†	0.5	0.2543	ug/L	0.91600	1.271	ug/L	4.5800	360.22%
Pb 220.353†	-0.2	-0.5081	ug/L	1.87089	-2.540	ug/L	9.3545	368.24%
Sb 206.836†	1.9	6.874	ug/L	5.4657	34.37	ug/L	27.328	79.51%
Se 196.026†	3.3	37.97	ug/L	44.671	189.9	ug/L	223.35	117.64%
SiO2 251.603†	3751.8	1131	ug/L	7.6	5657	ug/L	37.8	0.67%
Sr 421.552†	113553.5	74.38	ug/L	0.044	371.9	ug/L	0.22	0.06%
Ti 334.940†	2.4	0.011	ug/L	0.0106	0.056	ug/L	0.0530	94.24%
Tl 190.801†	2.0	7.599	ug/L	4.4596	37.99	ug/L	22.298	58.69%
V 290.880†	-85.1	-3.278	ug/L	0.3821	-16.39	ug/L	1.910	11.66%
Zn 206.200†	2.4	2.095	ug/L	0.6203	10.47	ug/L	3.102	29.62%

Dilution Check: SEQ-SRD1 @5X

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Sc Radial	20.74	104.0	0.672	%	401.3
Al 396.153	3.106	0.8890	1.785	ug/L	71.4
Ca 317.933	8495	8427	78.759	ug/L	0.8
Fe 238.204	6.545	8.768	4.450	ug/L	34.0
K 766.490	130.1	136.2	16.607	ug/L	4.7
Mg 285.213	1287	1277	15.387	ug/L	0.8
Na 589.592	546.7	537.8	6.170	ug/L	1.6
Sc Axial	20.31	102.6	0.607	%	405.1
Ag 328.068	0.1533	0.5377	0.098	ug/L	250.8
As 193.696	-14.88	-10.98	3.451	ug/L	-26.2
Ba 233.527	13.44	13.53	0.116	ug/L	0.7
Be 313.107	-0.0207	-0.0503	0.008	ug/L	-142.7
B 249.677	-0.8566	0.2803	0.308	ug/L	-132.7
Cd 214.440	0.0428	0.0411	0.187	ug/L	4.0
Co 228.616	0.1132	-0.2080	0.723	ug/L	283.7
Cr 267.716	0.0218	-0.1774	0.342	ug/L	914.0
Cu 324.752	0.2219	0.4601	0.187	ug/L	107.4
Mn 257.610	2.865	2.806	0.098	ug/L	2.0
Mo 202.031	1.567	3.446	1.799	ug/L	119.9
Ni 231.604	-0.0414	0.2543	0.916	ug/L	-713.8

Pb 220.353	-2.401	-0.5081	1.871	ug/L	-78.8
Sb 206.836	-0.6596	6.874	5.466	ug/L	-1142.2
Se 196.026	23.38	37.97	44.671	ug/L	62.4
SiO2 251.603	1167	1131	7.560	ug/L	3.1
Sr 421.552	73.77	74.38	0.044	ug/L	0.8
Ti 334.940	-0.025	0.011	0.011	ug/L	-144.2
Tl 190.801	-1.077	7.599	4.460	ug/L	-805.6
V 290.880	-0.560	-3.278	0.382	ug/L	-485.3
Zn 206.200	0.532	2.095	0.620	ug/L	293.5

Sequence No.: 15
Sample ID: 1011109-MS1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 31
Date Collected: 11/29/2010 8:22:22 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011109-MS1

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: 1011109-MS1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2481674.5	101.3	%	0.59				0.59%
Sc Radial	309411.5	103.2	%	0.58				0.56%
Ag 328.068†	6288.2	104.8	ug/L	0.64	104.8	ug/L	0.64	0.61%
Al 396.153†	50346.0	10810	ug/L	98.9	10810	ug/L	98.9	0.92%
As 193.696†	2.9	40.03	ug/L	52.990	40.03	ug/L	52.990	132.39%
Ba 233.527†	2007.0	166.0	ug/L	1.18	166.0	ug/L	1.18	0.71%
Be 313.107†	29185.8	106.3	ug/L	0.82	106.3	ug/L	0.82	0.77%
B 249.677†	-114.1	-17.52	ug/L	0.309	-17.52	ug/L	0.309	1.77%
Ca 317.933†	149813.4	51960	ug/L	418.5	51960	ug/L	418.5	0.81%
Cd 214.440†	344.6	105.3	ug/L	0.45	105.3	ug/L	0.45	0.43%
Co 228.616†	430.4	101.4	ug/L	1.28	101.4	ug/L	1.28	1.26%
Cr 267.716†	622.5	99.91	ug/L	1.066	99.91	ug/L	1.066	1.07%
Cu 324.752†	9651.6	101.1	ug/L	0.57	101.1	ug/L	0.57	0.56%
Fe 238.204†	1504.6	10720	ug/L	45.2	10720	ug/L	45.2	0.42%
K 766.490†	19864.2	11220	ug/L	113.1	11220	ug/L	113.1	1.01%
Mg 285.213†	108214.4	16860	ug/L	145.2	16860	ug/L	145.2	0.86%
Mn 257.610†	16025.9	116.3	ug/L	1.23	116.3	ug/L	1.23	1.05%
Mo 202.031†	46.1	93.69	ug/L	5.287	93.69	ug/L	5.287	5.64%
Na 589.592†	73247.9	13420	ug/L	130.0	13420	ug/L	130.0	0.97%
Ni 231.604†	178.3	98.58	ug/L	0.938	98.58	ug/L	0.938	0.95%
Pb 220.353†	33.8	75.60	ug/L	3.802	75.60	ug/L	3.802	5.03%
Sb 206.836†	18.5	65.79	ug/L	5.826	65.79	ug/L	5.826	8.86%
Se 196.026†	54.5	641.9	ug/L	38.61	641.9	ug/L	38.61	6.01%
SiO2 251.603†	19192.4	5770	ug/L	50.3	5770	ug/L	50.3	0.87%
Sr 421.552†	1381535.2	905.0	ug/L	0.74	905.0	ug/L	0.74	0.08%
Ti 334.940†	-81.8	-0.387	ug/L	0.0501	-0.387	ug/L	0.0501	12.95%
Tl 190.801†	26.8	104.5	ug/L	11.68	104.5	ug/L	11.68	11.18%
V 290.880†	2843.0	96.39	ug/L	1.229	96.39	ug/L	1.229	1.27%
Zn 206.200†	114.3	105.4	ug/L	0.86	105.4	ug/L	0.86	0.81%

Matrix Recovery Check: 1011109-MS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Al 396.153	10120	10810	98.911	ug/L	106.9
Ca 317.933	52570	51960	418.521	ug/L	93.9
Fe 238.204	10130	10720	45.180	ug/L	105.8
K 766.490	10750	11220	113.143	ug/L	104.6
Mg 285.213	16530	16860	145.235	ug/L	103.2
Na 589.592	12830	13420	130.007	ug/L	105.8
Ag 328.068	100.8	104.8	0.639	ug/L	104.0
As 193.696	25.59	40.03	52.990	ug/L	114.4
Ba 233.527	167.2	166.0	1.182	ug/L	98.9
Be 313.107	99.90	106.3	0.818	ug/L	106.4
Cd 214.440	100.2	105.3	0.454	ug/L	105.0
Co 228.616	100.6	101.4	1.277	ug/L	100.9
Cr 267.716	100.1	99.91	1.066	ug/L	99.8
Cu 324.752	101.1	101.1	0.565	ug/L	99.9
Mn 257.610	114.3	116.3	1.226	ug/L	102.0
Mo 202.031	107.8	93.69	5.287	ug/L	85.9
Ni 231.604	99.79	98.58	0.938	ug/L	98.8
Pb 220.353	87.99	75.60	3.802	ug/L	87.6
Sb 206.836	96.70	65.79	5.826	ug/L	69.1
Se 196.026	616.9	641.9	38.612	ug/L	105.0

SiO2 251.603	10840	5770	50.291	ug/L	-1.3
Sr 421.552	868.8	905.0	0.744	ug/L	107.2
Tl 190.801	94.62	104.5	11.680	ug/L	109.9
V 290.880	97.20	96.39	1.229	ug/L	99.2
Zn 206.200	102.7	105.4	0.859	ug/L	102.7

Sequence No.: 16
Sample ID: 1011109-MSD1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 32
Date Collected: 11/29/2010 8:25:28 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011109-MSD1

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: 1011109-MSD1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc Axial	2474381.9	101.0	%	0.34				0.34%
Sc Radial	309433.3	103.2	%	0.90				0.87%
Ag 328.068†	6207.5	103.5	ug/L	1.01	103.5	ug/L	1.01	0.97%
Al 396.153†	49650.2	10660	ug/L	63.1	10660	ug/L	63.1	0.59%
As 193.696†	1.9	30.31	ug/L	23.891	30.31	ug/L	23.891	78.81%
Ba 233.527†	1993.6	164.9	ug/L	0.47	164.9	ug/L	0.47	0.28%
Be 313.107†	28725.3	104.7	ug/L	1.02	104.7	ug/L	1.02	0.97%
B 249.677†	-118.8	-18.24	ug/L	0.609	-18.24	ug/L	0.609	3.34%
Ca 317.933†	149881.2	51980	ug/L	298.2	51980	ug/L	298.2	0.57%
Cd 214.440†	339.2	103.6	ug/L	1.34	103.6	ug/L	1.34	1.29%
Co 228.616†	420.3	99.06	ug/L	0.810	99.06	ug/L	0.810	0.82%
Cr 267.716†	616.7	98.99	ug/L	0.400	98.99	ug/L	0.400	0.40%
Cu 324.752†	9513.6	99.62	ug/L	0.995	99.62	ug/L	0.995	1.00%
Fe 238.204†	1473.5	10500	ug/L	45.7	10500	ug/L	45.7	0.44%
K 766.490†	19684.6	11120	ug/L	47.0	11120	ug/L	47.0	0.42%
Mg 285.213†	107591.1	16760	ug/L	90.8	16760	ug/L	90.8	0.54%
Mn 257.610†	15796.0	114.7	ug/L	1.28	114.7	ug/L	1.28	1.12%
Mo 202.031†	49.9	101.3	ug/L	3.86	101.3	ug/L	3.86	3.81%
Na 589.592†	72485.7	13280	ug/L	35.4	13280	ug/L	35.4	0.27%
Ni 231.604†	175.2	96.91	ug/L	1.667	96.91	ug/L	1.667	1.72%
Pb 220.353†	34.9	77.92	ug/L	4.026	77.92	ug/L	4.026	5.17%
Sb 206.836†	22.0	79.23	ug/L	5.383	79.23	ug/L	5.383	6.79%
Se 196.026†	60.3	709.9	ug/L	19.48	709.9	ug/L	19.48	2.74%
SiO2 251.603†	19308.1	5805	ug/L	44.7	5805	ug/L	44.7	0.77%
Sr 421.552†	1375706.4	901.1	ug/L	1.29	901.1	ug/L	1.29	0.14%
Ti 334.940†	-87.7	-0.415	ug/L	0.0938	-0.415	ug/L	0.0938	22.62%
Tl 190.801†	23.8	92.25	ug/L	10.420	92.25	ug/L	10.420	11.30%
V 290.880†	2789.3	94.56	ug/L	1.051	94.56	ug/L	1.051	1.11%
Zn 206.200†	112.1	103.3	ug/L	3.32	103.3	ug/L	3.32	3.21%

Matrix Recovery Check: 1011109-MSD1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Al 396.153	10120	10660	63.097	ug/L	105.4
Ca 317.933	52570	51980	298.167	ug/L	94.2
Fe 238.204	10130	10500	45.732	ug/L	103.7
K 766.490	10750	11120	47.013	ug/L	103.6
Mg 285.213	16530	16760	90.757	ug/L	102.2
Na 589.592	12830	13280	35.444	ug/L	104.4
Ag 328.068	100.8	103.5	1.005	ug/L	102.7
As 193.696	25.59	30.31	23.891	ug/L	104.7
Ba 233.527	167.2	164.9	0.466	ug/L	97.7
Be 313.107	99.90	104.7	1.015	ug/L	104.8
Cd 214.440	100.2	103.6	1.341	ug/L	103.4
Co 228.616	100.6	99.06	0.810	ug/L	98.5
Cr 267.716	100.1	98.99	0.400	ug/L	98.9
Cu 324.752	101.1	99.62	0.995	ug/L	98.5
Mn 257.610	114.3	114.7	1.282	ug/L	100.3
Mo 202.031	107.8	101.3	3.861	ug/L	93.5
Ni 231.604	99.79	96.91	1.667	ug/L	97.1
Pb 220.353	87.99	77.92	4.026	ug/L	89.9
Sb 206.836	96.70	79.23	5.383	ug/L	82.5
Se 196.026	616.9	709.9	19.482	ug/L	118.6

SiO2 251.603	10840	5805	44.660	ug/L	-0.6
Sr 421.552	868.8	901.1	1.291	ug/L	106.5
Tl 190.801	94.62	92.25	10.420	ug/L	97.6
V 290.880	97.20	94.56	1.051	ug/L	97.4
Zn 206.200	102.7	103.3	3.320	ug/L	100.7

Sequence No.: 17
Sample ID: C101104-06
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 33
Date Collected: 11/29/2010 8:28:34 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-06

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-06

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2515551.3	102.6	%	0.38				0.37%
Sc Radial	313647.4	104.6	%	0.60				0.57%
Ag 328.068†	7.2	0.8185	ug/L	0.33585	0.8185	ug/L	0.33585	41.03%
Al 396.153†	126.1	19.20	ug/L	4.310	19.20	ug/L	4.310	22.45%
As 193.696†	-8.7	-88.94	ug/L	22.500	-88.94	ug/L	22.500	25.30%
Ba 233.527†	813.9	67.31	ug/L	0.212	67.31	ug/L	0.212	0.31%
Be 313.107†	5.4	-0.0630	ug/L	0.02503	-0.0630	ug/L	0.02503	39.73%
B 249.677†	13.8	2.123	ug/L	0.3767	2.123	ug/L	0.3767	17.74%
Ca 317.933†	122194.5	42390	ug/L	263.8	42390	ug/L	263.8	0.62%
Cd 214.440†	-1.5	-0.4170	ug/L	1.11795	-0.4170	ug/L	1.11795	268.09%
Co 228.616†	1.2	0.4689	ug/L	0.44580	0.4689	ug/L	0.44580	95.07%
Cr 267.716†	-1.5	0.3347	ug/L	0.16912	0.3347	ug/L	0.16912	50.52%
Cu 324.752†	103.9	1.255	ug/L	0.1106	1.255	ug/L	0.1106	8.81%
Fe 238.204†	7.0	44.20	ug/L	4.265	44.20	ug/L	4.265	9.65%
K 766.490†	1131.4	631.8	ug/L	15.88	631.8	ug/L	15.88	2.51%
Mg 285.213†	41176.2	6413	ug/L	34.3	6413	ug/L	34.3	0.53%
Mn 257.610†	1977.1	14.17	ug/L	0.087	14.17	ug/L	0.087	0.62%
Mo 202.031†	5.3	10.42	ug/L	1.750	10.42	ug/L	1.750	16.80%
Na 589.592†	15060.0	2759	ug/L	10.3	2759	ug/L	10.3	0.37%
Ni 231.604†	-1.7	-0.9559	ug/L	0.81938	-0.9559	ug/L	0.81938	85.72%
Pb 220.353†	-7.6	-17.01	ug/L	5.862	-17.01	ug/L	5.862	34.47%
Sb 206.836†	1.4	3.260	ug/L	12.2665	3.260	ug/L	12.2665	376.24%
Se 196.026†	7.9	90.86	ug/L	42.350	90.86	ug/L	42.350	46.61%
SiO2 251.603†	19126.4	5768	ug/L	72.3	5768	ug/L	72.3	1.25%
Sr 421.552†	565807.1	370.6	ug/L	0.59	370.6	ug/L	0.59	0.16%
Ti 334.940†	-26.7	-0.126	ug/L	0.0141	-0.126	ug/L	0.0141	11.15%
Tl 190.801†	-1.9	-10.48	ug/L	8.764	-10.48	ug/L	8.764	83.63%
V 290.880†	-87.2	-4.428	ug/L	0.4941	-4.428	ug/L	0.4941	11.16%
Zn 206.200†	4.5	3.704	ug/L	1.0817	3.704	ug/L	1.0817	29.20%

Sequence No.: 18
Sample ID: C101104-09
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 34
Date Collected: 11/29/2010 8:31:39 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-09

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-09

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2493526.4	101.7	%	0.47				0.46%
Sc Radial	311541.9	103.9	%	0.30				0.29%
Ag 328.068†	25.0	1.323	ug/L	0.1770	1.323	ug/L	0.1770	13.37%
Al 396.153†	133.7	19.61	ug/L	3.685	19.61	ug/L	3.685	18.79%
As 193.696†	-8.6	-88.33	ug/L	24.208	-88.33	ug/L	24.208	27.41%
Ba 233.527†	750.8	61.83	ug/L	0.564	61.83	ug/L	0.564	0.91%
Be 313.107†	-0.2	-0.1081	ug/L	0.03847	-0.1081	ug/L	0.03847	35.61%
B 249.677†	-83.3	-12.78	ug/L	0.460	-12.78	ug/L	0.460	3.60%
Ca 317.933†	156967.3	54460	ug/L	100.4	54460	ug/L	100.4	0.18%
Cd 214.440†	-1.5	-0.3999	ug/L	0.26769	-0.3999	ug/L	0.26769	66.94%
Co 228.616†	3.1	0.9290	ug/L	0.74622	0.9290	ug/L	0.74622	80.32%
Cr 267.716†	-4.4	-0.0266	ug/L	0.19683	-0.0266	ug/L	0.19683	741.27%
Cu 324.752†	109.9	1.376	ug/L	0.1138	1.376	ug/L	0.1138	8.27%
Fe 238.204†	4.1	22.01	ug/L	17.354	22.01	ug/L	17.354	78.86%
K 766.490†	1541.5	857.8	ug/L	17.18	857.8	ug/L	17.18	2.00%
Mg 285.213†	48591.4	7567	ug/L	11.4	7567	ug/L	11.4	0.15%
Mn 257.610†	19521.4	142.2	ug/L	2.88	142.2	ug/L	2.88	2.03%
Mo 202.031†	4.5	8.706	ug/L	2.1567	8.706	ug/L	2.1567	24.77%
Na 589.592†	18419.1	3373	ug/L	11.1	3373	ug/L	11.1	0.33%
Ni 231.604†	0.2	0.1015	ug/L	1.50583	0.1015	ug/L	1.50583	>999.9%
Pb 220.353†	-6.4	-14.54	ug/L	7.311	-14.54	ug/L	7.311	50.28%
Sb 206.836†	-1.8	-9.852	ug/L	10.4279	-9.852	ug/L	10.4279	105.84%
Se 196.026†	6.0	67.62	ug/L	54.813	67.62	ug/L	54.813	81.06%
SiO2 251.603†	23879.8	7200	ug/L	83.4	7200	ug/L	83.4	1.16%
Sr 421.552†	788245.6	516.3	ug/L	1.65	516.3	ug/L	1.65	0.32%
Ti 334.940†	-35.3	-0.167	ug/L	0.0877	-0.167	ug/L	0.0877	52.54%
Tl 190.801†	-1.7	-10.63	ug/L	4.477	-10.63	ug/L	4.477	42.13%
V 290.880†	-68.8	-4.262	ug/L	0.4764	-4.262	ug/L	0.4764	11.18%
Zn 206.200†	33.0	30.45	ug/L	1.838	30.45	ug/L	1.838	6.03%

Sequence No.: 19
Sample ID: Blank
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 35
Date Collected: 11/29/2010 8:34:44 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: Blank

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: Blank

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2521587.3	102.9	%	0.19				0.18%
Sc Radial	307130.4	102.5	%	0.27				0.26%
Ag 328.068†	17.4	0.2860	ug/L	0.43069	0.2860	ug/L	0.43069	150.60%
Al 396.153†	4.8	1.011	ug/L	1.0625	1.011	ug/L	1.0625	105.13%
As 193.696†	-1.3	-12.80	ug/L	19.005	-12.80	ug/L	19.005	148.51%
Ba 233.527†	1.6	0.1204	ug/L	0.08896	0.1204	ug/L	0.08896	73.90%
Be 313.107†	-5.3	-0.0198	ug/L	0.05462	-0.0198	ug/L	0.05462	275.79%
B 249.677†	47.7	7.321	ug/L	0.6087	7.321	ug/L	0.6087	8.31%
Ca 317.933†	17.4	5.987	ug/L	2.8674	5.987	ug/L	2.8674	47.90%
Cd 214.440†	1.0	0.3203	ug/L	0.38324	0.3203	ug/L	0.38324	119.64%
Co 228.616†	-0.6	-0.1423	ug/L	0.93672	-0.1423	ug/L	0.93672	658.23%
Cr 267.716†	-2.0	-0.3103	ug/L	0.03504	-0.3103	ug/L	0.03504	11.29%
Cu 324.752†	69.0	0.7240	ug/L	0.25569	0.7240	ug/L	0.25569	35.32%
Fe 238.204†	2.9	20.38	ug/L	16.805	20.38	ug/L	16.805	82.44%
K 766.490†	64.0	36.82	ug/L	22.837	36.82	ug/L	22.837	62.02%
Mg 285.213†	0.6	0.0783	ug/L	1.14257	0.0783	ug/L	1.14257	>999.9%
Mn 257.610†	-11.1	-0.0832	ug/L	0.03575	-0.0832	ug/L	0.03575	42.97%
Mo 202.031†	0.1	0.1878	ug/L	1.48375	0.1878	ug/L	1.48375	790.12%
Na 589.592†	6.4	1.098	ug/L	5.9879	1.098	ug/L	5.9879	545.35%
Ni 231.604†	-0.5	-0.2716	ug/L	0.61472	-0.2716	ug/L	0.61472	226.35%
Pb 220.353†	-0.6	-1.388	ug/L	7.8196	-1.388	ug/L	7.8196	563.26%
Sb 206.836†	1.9	7.239	ug/L	11.8498	7.239	ug/L	11.8498	163.69%
Se 196.026†	1.8	21.81	ug/L	16.194	21.81	ug/L	16.194	74.24%
SiO2 251.603†	345.5	104.3	ug/L	1.58	104.3	ug/L	1.58	1.52%
Sr 421.552†	50.9	0.033	ug/L	0.0023	0.033	ug/L	0.0023	7.03%
Ti 334.940†	11.1	0.052	ug/L	0.0168	0.052	ug/L	0.0168	32.04%
Tl 190.801†	-2.0	-8.350	ug/L	2.7590	-8.350	ug/L	2.7590	33.04%
V 290.880†	-99.8	-3.537	ug/L	0.4458	-3.537	ug/L	0.4458	12.60%
Zn 206.200†	1.0	0.969	ug/L	1.0889	0.969	ug/L	1.0889	112.37%

Sequence No.: 20
Sample ID: SEQ-CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 11/29/2010 8:37:49 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-CCV

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc Axial	2489303.8	101.6	%	0.75				0.74%
Sc Radial	313708.4	104.7	%	0.64				0.61%
Ag 328.068†	15651.8	258.7	ug/L	2.33	258.7	ug/L	2.33	0.90%
QC value within limits for Ag 328.068 Recovery = 103.49%								
Al 396.153†	59075.2	12680	ug/L	94.6	12680	ug/L	94.6	0.75%
QC value within limits for Al 396.153 Recovery = 101.43%								
As 193.696†	253.3	2589	ug/L	44.5	2589	ug/L	44.5	1.72%
QC value within limits for As 193.696 Recovery = 103.58%								
Ba 233.527†	6065.2	504.0	ug/L	3.36	504.0	ug/L	3.36	0.67%
QC value within limits for Ba 233.527 Recovery = 100.79%								
Be 313.107†	142759.0	520.7	ug/L	1.71	520.7	ug/L	1.71	0.33%
QC value within limits for Be 313.107 Recovery = 104.14%								
B 249.677†	33009.9	5069	ug/L	67.4	5069	ug/L	67.4	1.33%
QC value within limits for B 249.677 Recovery = 101.38%								
Ca 317.933†	36708.1	12670	ug/L	104.2	12670	ug/L	104.2	0.82%
QC value within limits for Ca 317.933 Recovery = 101.40%								
Cd 214.440†	1684.1	514.1	ug/L	3.59	514.1	ug/L	3.59	0.70%
QC value within limits for Cd 214.440 Recovery = 102.83%								
Co 228.616†	2208.1	519.7	ug/L	4.97	519.7	ug/L	4.97	0.96%
QC value within limits for Co 228.616 Recovery = 103.94%								
Cr 267.716†	15679.6	2486	ug/L	13.3	2486	ug/L	13.3	0.54%
QC value within limits for Cr 267.716 Recovery = 99.44%								
Cu 324.752†	98910.7	1032	ug/L	3.2	1032	ug/L	3.2	0.31%
QC value within limits for Cu 324.752 Recovery = 103.17%								
Fe 238.204†	1775.9	12650	ug/L	105.8	12650	ug/L	105.8	0.84%
QC value within limits for Fe 238.204 Recovery = 101.19%								
K 766.490†	44605.5	25200	ug/L	167.0	25200	ug/L	167.0	0.66%
QC value within limits for K 766.490 Recovery = 100.81%								
Mg 285.213†	82083.6	12780	ug/L	109.7	12780	ug/L	109.7	0.86%
QC value within limits for Mg 285.213 Recovery = 102.22%								
Mn 257.610†	140325.0	1023	ug/L	8.3	1023	ug/L	8.3	0.81%
QC value within limits for Mn 257.610 Recovery = 102.32%								
Mo 202.031†	253.3	513.4	ug/L	9.36	513.4	ug/L	9.36	1.82%
QC value within limits for Mo 202.031 Recovery = 102.68%								
Na 589.592†	69743.6	12700	ug/L	83.0	12700	ug/L	83.0	0.65%
QC value within limits for Na 589.592 Recovery = 101.60%								
Ni 231.604†	4577.0	2537	ug/L	13.0	2537	ug/L	13.0	0.51%
QC value within limits for Ni 231.604 Recovery = 101.48%								
Pb 220.353†	1147.2	2584	ug/L	18.3	2584	ug/L	18.3	0.71%
QC value within limits for Pb 220.353 Recovery = 103.34%								
Sb 206.836†	659.2	2507	ug/L	44.7	2507	ug/L	44.7	1.78%
QC value within limits for Sb 206.836 Recovery = 100.29%								
Se 196.026†	226.1	2668	ug/L	33.4	2668	ug/L	33.4	1.25%
QC value within limits for Se 196.026 Recovery = 106.73%								
SiO2 251.603†	33577.8	10120	ug/L	73.3	10120	ug/L	73.3	0.72%
QC value within limits for SiO2 251.603 Recovery = 101.15%								
Sr 421.552†	805617.3	527.7	ug/L	1.14	527.7	ug/L	1.14	0.22%
QC value within limits for Sr 421.552 Recovery = 105.54%								
Ti 334.940†	107363.7	507.9	ug/L	0.80	507.9	ug/L	0.80	0.16%
QC value within limits for Ti 334.940 Recovery = 101.57%								
Tl 190.801†	634.1	2593	ug/L	5.4	2593	ug/L	5.4	0.21%
QC value within limits for Tl 190.801 Recovery = 103.73%								
V 290.880†	28397.2	1001	ug/L	6.2	1001	ug/L	6.2	0.62%
QC value within limits for V 290.880 Recovery = 100.12%								

Zn 206.200†	2731.1	2575 ug/L	15.3	2575 ug/L	15.3	0.59%

QC value within limits for Zn 206.200 Recovery = 102.98%
All analyte(s) passed QC.

Sequence No.: 21 **Autosampler Location: 1**
Sample ID: SEQ-CCB **Date Collected: 11/29/2010 8:40:56 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: SEQ-CCB

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2527633.6	103.1	%	0.47				0.46%
Sc Radial	311184.4	103.8	%	1.02				0.99%
Ag 328.068†	17.6	0.2865	ug/L	0.07983	0.2865	ug/L	0.07983	27.87%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	8.7	1.550	ug/L	1.9410	1.550	ug/L	1.9410	125.21%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 193.696†	-0.1	-0.7879	ug/L	12.72939	-0.7879	ug/L	12.72939	>999.9%
QC value within limits for As 193.696 Recovery = Not calculated								
Ba 233.527†	0.7	0.0448	ug/L	0.05477	0.0448	ug/L	0.05477	122.23%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	4.1	0.0139	ug/L	0.04174	0.0139	ug/L	0.04174	300.96%
QC value within limits for Be 313.107 Recovery = Not calculated								
B 249.677†	293.0	45.00	ug/L	4.045	45.00	ug/L	4.045	8.99%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 317.933†	8.2	2.736	ug/L	1.1077	2.736	ug/L	1.1077	40.49%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 214.440†	1.3	0.4051	ug/L	0.59451	0.4051	ug/L	0.59451	146.75%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-0.5	-0.1144	ug/L	0.28202	-0.1144	ug/L	0.28202	246.43%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	1.7	0.2773	ug/L	0.61912	0.2773	ug/L	0.61912	223.25%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 324.752†	77.6	0.8098	ug/L	0.22861	0.8098	ug/L	0.22861	28.23%
QC value within limits for Cu 324.752 Recovery = Not calculated								
Fe 238.204†	2.2	15.68	ug/L	11.172	15.68	ug/L	11.172	71.24%
QC value within limits for Fe 238.204 Recovery = Not calculated								
K 766.490†	51.7	28.61	ug/L	19.246	28.61	ug/L	19.246	67.28%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	5.5	0.8262	ug/L	0.49466	0.8262	ug/L	0.49466	59.87%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	3.0	0.0179	ug/L	0.02390	0.0179	ug/L	0.02390	133.61%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.5	7.036	ug/L	2.4636	7.036	ug/L	2.4636	35.01%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-25.0	-4.761	ug/L	3.8805	-4.761	ug/L	3.8805	81.51%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	0.3	0.1848	ug/L	0.33009	0.1848	ug/L	0.33009	178.65%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-3.7	-8.392	ug/L	10.3936	-8.392	ug/L	10.3936	123.85%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	10.2	39.51	ug/L	12.143	39.51	ug/L	12.143	30.74%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-0.1	-0.5750	ug/L	25.31637	-0.5750	ug/L	25.31637	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
SiO2 251.603†	4.2	1.229	ug/L	1.3180	1.229	ug/L	1.3180	107.24%
QC value within limits for SiO2 251.603 Recovery = Not calculated								
Sr 421.552†	33.5	0.022	ug/L	0.0038	0.022	ug/L	0.0038	17.27%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 334.940†	53.2	0.252	ug/L	0.0087	0.252	ug/L	0.0087	3.45%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	1.0	3.881	ug/L	10.8152	3.881	ug/L	10.8152	278.69%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-113.7	-3.982	ug/L	0.4486	-3.982	ug/L	0.4486	11.27%
QC value within limits for V 290.880 Recovery = Not calculated								

Zn 206.200†	2.0	1.916 ug/L	1.9933	1.916 ug/L	1.9933	104.03%

QC value within limits for Zn 206.200 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 22
Sample ID: C101104-12
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 36
Date Collected: 11/29/2010 8:43:59 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-12

Analyte	Back Pressure	Flow
All	114.0 kPa	0.80 L/min

Mean Data: C101104-12

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2472806.4	100.9	%	0.69				0.68%
Sc Radial	309607.1	103.3	%	1.15				1.11%
Ag 328.068†	1.0	1.244	ug/L	0.2638	1.244	ug/L	0.2638	21.20%
Al 396.153†	155.5	24.62	ug/L	2.838	24.62	ug/L	2.838	11.53%
As 193.696†	-10.4	-106.5	ug/L	28.10	-106.5	ug/L	28.10	26.38%
Ba 233.527†	729.2	59.77	ug/L	0.335	59.77	ug/L	0.335	0.56%
Be 313.107†	-7.3	-0.1605	ug/L	0.02784	-0.1605	ug/L	0.02784	17.34%
B 249.677†	15.4	2.361	ug/L	0.9630	2.361	ug/L	0.9630	40.79%
Ca 317.933†	189698.8	65810	ug/L	406.2	65810	ug/L	406.2	0.62%
Cd 214.440†	1.9	0.6296	ug/L	0.41362	0.6296	ug/L	0.41362	65.69%
Co 228.616†	3.3	1.037	ug/L	1.0778	1.037	ug/L	1.0778	103.98%
Cr 267.716†	-4.3	0.1287	ug/L	0.17659	0.1287	ug/L	0.17659	137.18%
Cu 324.752†	125.4	1.628	ug/L	0.0874	1.628	ug/L	0.0874	5.37%
Fe 238.204†	4.5	23.88	ug/L	8.984	23.88	ug/L	8.984	37.63%
K 766.490†	1690.8	928.0	ug/L	23.22	928.0	ug/L	23.22	2.50%
Mg 285.213†	54385.8	8469	ug/L	13.4	8469	ug/L	13.4	0.16%
Mn 257.610†	33817.6	246.5	ug/L	2.60	246.5	ug/L	2.60	1.06%
Mo 202.031†	6.2	12.09	ug/L	3.761	12.09	ug/L	3.761	31.10%
Na 589.592†	21704.8	3973	ug/L	3.3	3973	ug/L	3.3	0.08%
Ni 231.604†	-2.7	-1.479	ug/L	0.7682	-1.479	ug/L	0.7682	51.95%
Pb 220.353†	-3.8	-8.758	ug/L	10.5667	-8.758	ug/L	10.5667	120.64%
Sb 206.836†	-1.6	-10.01	ug/L	12.592	-10.01	ug/L	12.592	125.83%
Se 196.026†	9.2	105.1	ug/L	31.79	105.1	ug/L	31.79	30.25%
SiO2 251.603†	25663.4	7735	ug/L	73.6	7735	ug/L	73.6	0.95%
Sr 421.552†	1096193.7	718.0	ug/L	0.74	718.0	ug/L	0.74	0.10%
Ti 334.940†	-28.4	-0.134	ug/L	0.0224	-0.134	ug/L	0.0224	16.73%
Tl 190.801†	-0.3	-5.957	ug/L	8.8572	-5.957	ug/L	8.8572	148.67%
V 290.880†	-68.1	-4.811	ug/L	0.2178	-4.811	ug/L	0.2178	4.53%
Zn 206.200†	187.8	176.4	ug/L	0.43	176.4	ug/L	0.43	0.25%

Sequence No.: 23
Sample ID: C101104-15
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 37
Date Collected: 11/29/2010 8:47:06 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-15

Analyte	Back Pressure	Flow
All	117.0 kPa	0.80 L/min

Mean Data: C101104-15

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2474836.5	101.0	%	0.59				0.58%
Sc Radial	311297.5	103.9	%	0.66				0.64%
Ag 328.068†	0.9	1.687	ug/L	0.2248	1.687	ug/L	0.2248	13.32%
Al 396.153†	183.0	31.35	ug/L	6.370	31.35	ug/L	6.370	20.32%
As 193.696†	-8.8	-91.12	ug/L	8.703	-91.12	ug/L	8.703	9.55%
Ba 233.527†	679.7	55.26	ug/L	0.433	55.26	ug/L	0.433	0.78%
Be 313.107†	4.5	-0.1572	ug/L	0.04158	-0.1572	ug/L	0.04158	26.45%
B 249.677†	-76.9	-11.81	ug/L	0.726	-11.81	ug/L	0.726	6.15%
Ca 317.933†	239361.1	83040	ug/L	409.2	83040	ug/L	409.2	0.49%
Cd 214.440†	4.4	1.408	ug/L	0.2999	1.408	ug/L	0.2999	21.30%
Co 228.616†	1.1	0.5579	ug/L	0.99771	0.5579	ug/L	0.99771	178.85%
Cr 267.716†	-4.8	0.2688	ug/L	0.44473	0.2688	ug/L	0.44473	165.44%
Cu 324.752†	162.9	2.139	ug/L	0.1193	2.139	ug/L	0.1193	5.58%
Fe 238.204†	3.0	10.83	ug/L	14.247	10.83	ug/L	14.247	131.57%
K 766.490†	1940.2	1048	ug/L	14.5	1048	ug/L	14.5	1.38%
Mg 285.213†	63130.7	9831	ug/L	59.3	9831	ug/L	59.3	0.60%
Mn 257.610†	54870.8	400.1	ug/L	3.16	400.1	ug/L	3.16	0.79%
Mo 202.031†	3.4	6.457	ug/L	2.3896	6.457	ug/L	2.3896	37.01%
Na 589.592†	26151.6	4785	ug/L	22.0	4785	ug/L	22.0	0.46%
Ni 231.604†	-0.3	-0.0884	ug/L	0.12612	-0.0884	ug/L	0.12612	142.72%
Pb 220.353†	-5.8	-13.63	ug/L	2.702	-13.63	ug/L	2.702	19.82%
Sb 206.836†	-1.8	-12.19	ug/L	6.102	-12.19	ug/L	6.102	50.08%
Se 196.026†	6.5	72.91	ug/L	35.467	72.91	ug/L	35.467	48.64%
SiO2 251.603†	28572.6	8607	ug/L	71.2	8607	ug/L	71.2	0.83%
Sr 421.552†	1561898.7	1023	ug/L	0.5	1023	ug/L	0.5	0.04%
Ti 334.940†	-44.4	-0.210	ug/L	0.1132	-0.210	ug/L	0.1132	53.91%
Tl 190.801†	-4.3	-23.54	ug/L	16.442	-23.54	ug/L	16.442	69.84%
V 290.880†	-55.9	-5.276	ug/L	0.4327	-5.276	ug/L	0.4327	8.20%
Zn 206.200†	414.2	389.9	ug/L	1.50	389.9	ug/L	1.50	0.38%

Sequence No.: 24
Sample ID: C101104-18
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 11/29/2010 8:50:13 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-18

Analyte	Back Pressure	Flow
All	116.0 kPa	0.80 L/min

Mean Data: C101104-18

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2482473.8	101.3	%	0.49				0.48%
Sc Radial	311228.6	103.8	%	1.35				1.30%
Ag 328.068†	2.2	1.265	ug/L	0.0668	1.265	ug/L	0.0668	5.28%
Al 396.153†	137.7	20.88	ug/L	5.332	20.88	ug/L	5.332	25.54%
As 193.696†	-8.7	-89.10	ug/L	5.057	-89.10	ug/L	5.057	5.68%
Ba 233.527†	728.1	59.66	ug/L	0.440	59.66	ug/L	0.440	0.74%
Be 313.107†	-0.1	-0.1349	ug/L	0.01929	-0.1349	ug/L	0.01929	14.30%
B 249.677†	-75.6	-11.60	ug/L	0.416	-11.60	ug/L	0.416	3.58%
Ca 317.933†	190192.3	65980	ug/L	196.7	65980	ug/L	196.7	0.30%
Cd 214.440†	2.5	0.8280	ug/L	0.18196	0.8280	ug/L	0.18196	21.98%
Co 228.616†	4.0	1.196	ug/L	0.5761	1.196	ug/L	0.5761	48.18%
Cr 267.716†	-3.5	0.2651	ug/L	0.31402	0.2651	ug/L	0.31402	118.46%
Cu 324.752†	143.4	1.818	ug/L	0.0498	1.818	ug/L	0.0498	2.74%
Fe 238.204†	2.1	6.081	ug/L	11.3315	6.081	ug/L	11.3315	186.35%
K 766.490†	1739.0	955.4	ug/L	25.35	955.4	ug/L	25.35	2.65%
Mg 285.213†	54552.3	8495	ug/L	20.5	8495	ug/L	20.5	0.24%
Mn 257.610†	33571.4	244.7	ug/L	1.11	244.7	ug/L	1.11	0.45%
Mo 202.031†	5.3	10.21	ug/L	3.964	10.21	ug/L	3.964	38.82%
Na 589.592†	21585.5	3951	ug/L	9.5	3951	ug/L	9.5	0.24%
Ni 231.604†	1.1	0.5990	ug/L	0.23562	0.5990	ug/L	0.23562	39.34%
Pb 220.353†	-7.5	-17.23	ug/L	8.652	-17.23	ug/L	8.652	50.20%
Sb 206.836†	2.6	6.076	ug/L	3.1496	6.076	ug/L	3.1496	51.83%
Se 196.026†	12.1	139.5	ug/L	26.16	139.5	ug/L	26.16	18.75%
SiO2 251.603†	25493.4	7684	ug/L	44.8	7684	ug/L	44.8	0.58%
Sr 421.552†	1095886.0	717.8	ug/L	1.66	717.8	ug/L	1.66	0.23%
Ti 334.940†	-37.5	-0.178	ug/L	0.0712	-0.178	ug/L	0.0712	40.12%
Tl 190.801†	-3.5	-18.83	ug/L	11.949	-18.83	ug/L	11.949	63.45%
V 290.880†	-86.6	-5.489	ug/L	0.3151	-5.489	ug/L	0.3151	5.74%
Zn 206.200†	184.1	172.9	ug/L	0.89	172.9	ug/L	0.89	0.52%

Sequence No.: 25
Sample ID: C101104-21
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 39
Date Collected: 11/29/2010 8:53:18 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-21

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-21

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2470282.1	100.8	%	0.39				0.38%
Sc Radial	308556.3	102.9	%	0.47				0.46%
Ag 328.068†	4.0	0.8245	ug/L	0.32496	0.8245	ug/L	0.32496	39.41%
Al 396.153†	169.7	20.60	ug/L	6.211	20.60	ug/L	6.211	30.15%
As 193.696†	-10.4	-106.5	ug/L	29.86	-106.5	ug/L	29.86	28.04%
Ba 233.527†	628.0	51.60	ug/L	0.287	51.60	ug/L	0.287	0.56%
Be 313.107†	-1.8	-0.1239	ug/L	0.01838	-0.1239	ug/L	0.01838	14.83%
B 249.677†	-144.6	-22.20	ug/L	0.438	-22.20	ug/L	0.438	1.97%
Ca 317.933†	196390.1	68140	ug/L	162.2	68140	ug/L	162.2	0.24%
Cd 214.440†	0.5	0.2122	ug/L	0.16702	0.2122	ug/L	0.16702	78.69%
Co 228.616†	5.3	1.475	ug/L	0.4289	1.475	ug/L	0.4289	29.07%
Cr 267.716†	-7.3	-0.3990	ug/L	0.39627	-0.3990	ug/L	0.39627	99.32%
Cu 324.752†	122.4	1.387	ug/L	0.0968	1.387	ug/L	0.0968	6.98%
Fe 238.204†	14.1	93.71	ug/L	20.028	93.71	ug/L	20.028	21.37%
K 766.490†	1462.4	824.7	ug/L	9.52	824.7	ug/L	9.52	1.15%
Mg 285.213†	50879.7	7924	ug/L	24.2	7924	ug/L	24.2	0.30%
Mn 257.610†	5043.4	36.51	ug/L	0.284	36.51	ug/L	0.284	0.78%
Mo 202.031†	3.7	6.582	ug/L	1.1700	6.582	ug/L	1.1700	17.78%
Na 589.592†	12781.8	2339	ug/L	16.6	2339	ug/L	16.6	0.71%
Ni 231.604†	-1.5	-1.049	ug/L	1.9179	-1.049	ug/L	1.9179	182.85%
Pb 220.353†	-9.8	-20.97	ug/L	10.236	-20.97	ug/L	10.236	48.81%
Sb 206.836†	-0.9	-5.794	ug/L	10.1510	-5.794	ug/L	10.1510	175.20%
Se 196.026†	10.5	119.8	ug/L	40.15	119.8	ug/L	40.15	33.52%
SiO2 251.603†	22360.9	6747	ug/L	32.3	6747	ug/L	32.3	0.48%
Sr 421.552†	546004.5	357.7	ug/L	0.48	357.7	ug/L	0.48	0.13%
Ti 334.940†	-42.9	-0.203	ug/L	0.0435	-0.203	ug/L	0.0435	21.47%
Tl 190.801†	-1.4	-8.910	ug/L	14.9418	-8.910	ug/L	14.9418	167.70%
V 290.880†	-62.9	-3.956	ug/L	0.3781	-3.956	ug/L	0.3781	9.56%
Zn 206.200†	18.4	17.12	ug/L	2.340	17.12	ug/L	2.340	13.67%

Sequence No.: 26
Sample ID: C101104-24
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 11/29/2010 8:56:22 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-24

Analyte	Back Pressure	Flow
All	117.0 kPa	0.80 L/min

Mean Data: C101104-24

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2482681.6	101.3	%	0.32				0.32%
Sc Radial	310643.6	103.6	%	0.70				0.68%
Ag 328.068†	31.6	1.380	ug/L	0.2660	1.380	ug/L	0.2660	19.27%
Al 396.153†	163.0	23.52	ug/L	4.174	23.52	ug/L	4.174	17.75%
As 193.696†	-9.4	-94.38	ug/L	20.585	-94.38	ug/L	20.585	21.81%
Ba 233.527†	588.8	47.87	ug/L	0.486	47.87	ug/L	0.486	1.01%
Be 313.107†	-11.5	-0.1956	ug/L	0.00942	-0.1956	ug/L	0.00942	4.82%
B 249.677†	-170.4	-26.16	ug/L	0.458	-26.16	ug/L	0.458	1.75%
Ca 317.933†	212049.1	73570	ug/L	504.7	73570	ug/L	504.7	0.69%
Cd 214.440†	-0.7	-0.1724	ug/L	0.32261	-0.1724	ug/L	0.32261	187.14%
Co 228.616†	9.0	2.256	ug/L	0.3700	2.256	ug/L	0.3700	16.40%
Cr 267.716†	-3.5	-1.384	ug/L	0.5108	-1.384	ug/L	0.5108	36.91%
Cu 324.752†	122.5	1.627	ug/L	0.3425	1.627	ug/L	0.3425	21.05%
Fe 238.204†	745.3	5311	ug/L	19.6	5311	ug/L	19.6	0.37%
K 766.490†	2172.9	1204	ug/L	27.0	1204	ug/L	27.0	2.24%
Mg 285.213†	47000.0	7318	ug/L	28.7	7318	ug/L	28.7	0.39%
Mn 257.610†	428834.0	3130	ug/L	3.5	3130	ug/L	3.5	0.11%
Mo 202.031†	4.8	9.449	ug/L	2.6444	9.449	ug/L	2.6444	27.99%
Na 589.592†	15649.2	2861	ug/L	17.2	2861	ug/L	17.2	0.60%
Ni 231.604†	-0.9	-0.8169	ug/L	0.39781	-0.8169	ug/L	0.39781	48.70%
Pb 220.353†	-10.0	-22.72	ug/L	9.442	-22.72	ug/L	9.442	41.55%
Sb 206.836†	-1.1	-8.442	ug/L	10.4804	-8.442	ug/L	10.4804	124.15%
Se 196.026†	11.6	132.1	ug/L	66.96	132.1	ug/L	66.96	50.70%
SiO2 251.603†	31388.3	9460	ug/L	53.9	9460	ug/L	53.9	0.57%
Sr 421.552†	1085310.6	710.9	ug/L	0.97	710.9	ug/L	0.97	0.14%
Ti 334.940†	-41.4	-0.196	ug/L	0.0100	-0.196	ug/L	0.0100	5.10%
Tl 190.801†	-5.4	-31.19	ug/L	13.512	-31.19	ug/L	13.512	43.32%
V 290.880†	-50.1	-5.136	ug/L	0.2440	-5.136	ug/L	0.2440	4.75%
Zn 206.200†	6.9	5.089	ug/L	2.0605	5.089	ug/L	2.0605	40.49%

Sequence No.: 27
Sample ID: C101104-27
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 41
Date Collected: 11/29/2010 8:59:28 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-27

Analyte	Back Pressure	Flow
All	114.0 kPa	0.80 L/min

Mean Data: C101104-27

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2474972.0	101.0	%	0.83				0.82%
Sc Radial	309229.2	103.2	%	0.50				0.49%
Ag 328.068†	-8.0	0.6683	ug/L	0.19541	0.6683	ug/L	0.19541	29.24%
Al 396.153†	129.2	14.29	ug/L	0.828	14.29	ug/L	0.828	5.80%
As 193.696†	-9.2	-94.61	ug/L	17.847	-94.61	ug/L	17.847	18.86%
Ba 233.527†	549.3	45.04	ug/L	0.280	45.04	ug/L	0.280	0.62%
Be 313.107†	-7.3	-0.1371	ug/L	0.04422	-0.1371	ug/L	0.04422	32.25%
B 249.677†	-148.3	-22.77	ug/L	0.832	-22.77	ug/L	0.832	3.66%
Ca 317.933†	178376.8	61890	ug/L	304.9	61890	ug/L	304.9	0.49%
Cd 214.440†	1.4	0.4618	ug/L	0.08633	0.4618	ug/L	0.08633	18.70%
Co 228.616†	16.9	4.178	ug/L	0.9650	4.178	ug/L	0.9650	23.10%
Cr 267.716†	-2.0	0.4194	ug/L	0.66540	0.4194	ug/L	0.66540	158.64%
Cu 324.752†	209.8	2.325	ug/L	0.1818	2.325	ug/L	0.1818	7.82%
Fe 238.204†	4.7	27.31	ug/L	16.085	27.31	ug/L	16.085	58.89%
K 766.490†	1386.7	776.4	ug/L	26.53	776.4	ug/L	26.53	3.42%
Mg 285.213†	48427.6	7542	ug/L	8.9	7542	ug/L	8.9	0.12%
Mn 257.610†	1417.1	10.04	ug/L	0.121	10.04	ug/L	0.121	1.20%
Mo 202.031†	8.0	15.44	ug/L	1.578	15.44	ug/L	1.578	10.22%
Na 589.592†	12868.9	2354	ug/L	21.3	2354	ug/L	21.3	0.90%
Ni 231.604†	7.2	3.839	ug/L	1.6795	3.839	ug/L	1.6795	43.75%
Pb 220.353†	-7.7	-16.62	ug/L	8.658	-16.62	ug/L	8.658	52.10%
Sb 206.836†	0.9	0.9924	ug/L	1.58906	0.9924	ug/L	1.58906	160.12%
Se 196.026†	10.1	115.0	ug/L	81.82	115.0	ug/L	81.82	71.14%
SiO2 251.603†	20251.1	6109	ug/L	72.8	6109	ug/L	72.8	1.19%
Sr 421.552†	602004.6	394.3	ug/L	0.69	394.3	ug/L	0.69	0.18%
Ti 334.940†	-19.8	-0.094	ug/L	0.0320	-0.094	ug/L	0.0320	34.17%
Tl 190.801†	-2.1	-11.82	ug/L	20.787	-11.82	ug/L	20.787	175.80%
V 290.880†	-88.3	-4.767	ug/L	0.8790	-4.767	ug/L	0.8790	18.44%
Zn 206.200†	139.2	131.1	ug/L	1.70	131.1	ug/L	1.70	1.30%

Sequence No.: 28
Sample ID: C101104-30
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 42
Date Collected: 11/29/2010 9:02:32 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-30

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-30

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2416877.2	98.61	%	0.450				0.46%
Sc Radial	307521.5	102.6	%	0.39				0.38%
Ag 328.068†	-12.3	0.3725	ug/L	0.12777	0.3725	ug/L	0.12777	34.30%
Al 396.153†	444.3	26.76	ug/L	0.725	26.76	ug/L	0.725	2.71%
As 193.696†	-9.2	-96.19	ug/L	13.877	-96.19	ug/L	13.877	14.43%
Ba 233.527†	279.7	21.44	ug/L	0.222	21.44	ug/L	0.222	1.04%
Be 313.107†	-11.2	-0.3649	ug/L	0.02864	-0.3649	ug/L	0.02864	7.85%
B 249.677†	-286.7	-44.03	ug/L	0.741	-44.03	ug/L	0.741	1.68%
Ca 317.933†	646540.1	224300	ug/L	961.1	224300	ug/L	961.1	0.43%
Cd 214.440†	-4.3	-1.200	ug/L	0.2598	-1.200	ug/L	0.2598	21.65%
Co 228.616†	6.4	2.098	ug/L	0.9720	2.098	ug/L	0.9720	46.34%
Cr 267.716†	-6.1	0.2356	ug/L	0.45916	0.2356	ug/L	0.45916	194.89%
Cu 324.752†	124.0	0.8738	ug/L	0.20384	0.8738	ug/L	0.20384	23.33%
Fe 238.204†	332.5	2359	ug/L	11.4	2359	ug/L	11.4	0.48%
K 766.490†	3522.4	2032	ug/L	32.1	2032	ug/L	32.1	1.58%
Mg 285.213†	129001.2	20090	ug/L	65.3	20090	ug/L	65.3	0.33%
Mn 257.610†	159013.4	1160	ug/L	0.9	1160	ug/L	0.9	0.07%
Mo 202.031†	5.2	6.890	ug/L	2.2561	6.890	ug/L	2.2561	32.74%
Na 589.592†	53438.8	9803	ug/L	38.8	9803	ug/L	38.8	0.40%
Ni 231.604†	0.2	-1.576	ug/L	1.9146	-1.576	ug/L	1.9146	121.49%
Pb 220.353†	-12.6	-20.37	ug/L	6.967	-20.37	ug/L	6.967	34.20%
Sb 206.836†	-1.8	-7.831	ug/L	10.1724	-7.831	ug/L	10.1724	129.90%
Se 196.026†	14.6	154.0	ug/L	90.15	154.0	ug/L	90.15	58.55%
SiO2 251.603†	37331.7	11290	ug/L	41.0	11290	ug/L	41.0	0.36%
Sr 421.552†	Saturated2							
Ti 334.940†	-53.7	-0.254	ug/L	0.0523	-0.254	ug/L	0.0523	20.61%
Tl 190.801†	-1.7	-15.06	ug/L	14.318	-15.06	ug/L	14.318	95.07%
V 290.880†	-15.2	-4.398	ug/L	0.2401	-4.398	ug/L	0.2401	5.46%
Zn 206.200†	9.5	10.93	ug/L	0.968	10.93	ug/L	0.968	8.86%

Sequence No.: 29
Sample ID: C101104-33
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 43
Date Collected: 11/29/2010 9:06:37 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-33

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-33

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2392879.0	97.64	%	0.440				0.45%
Sc Radial	303592.1	101.3	%	0.59				0.58%
Ag 328.068†	-24.0	0.3347	ug/L	0.13506	0.3347	ug/L	0.13506	40.36%
Al 396.153†	447.7	24.15	ug/L	5.206	24.15	ug/L	5.206	21.56%
As 193.696†	-8.1	-86.89	ug/L	24.233	-86.89	ug/L	24.233	27.89%
Ba 233.527†	233.0	17.45	ug/L	0.188	17.45	ug/L	0.188	1.08%
Be 313.107†	-10.9	-0.3796	ug/L	0.01887	-0.3796	ug/L	0.01887	4.97%
B 249.677†	-313.0	-48.07	ug/L	0.786	-48.07	ug/L	0.786	1.63%
Ca 317.933†	686181.3	238100	ug/L	1232.7	238100	ug/L	1232.7	0.52%
Cd 214.440†	8.2	2.634	ug/L	0.6778	2.634	ug/L	0.6778	25.73%
Co 228.616†	2.7	1.324	ug/L	0.9083	1.324	ug/L	0.9083	68.61%
Cr 267.716†	-6.3	0.8965	ug/L	0.33516	0.8965	ug/L	0.33516	37.39%
Cu 324.752†	167.5	1.298	ug/L	0.3066	1.298	ug/L	0.3066	23.62%
Fe 238.204†	18.2	115.6	ug/L	8.93	115.6	ug/L	8.93	7.72%
K 766.490†	2938.7	1700	ug/L	16.2	1700	ug/L	16.2	0.96%
Mg 285.213†	142707.6	22220	ug/L	163.4	22220	ug/L	163.4	0.74%
Mn 257.610†	27407.8	199.4	ug/L	1.01	199.4	ug/L	1.01	0.51%
Mo 202.031†	2.2	0.4082	ug/L	5.05952	0.4082	ug/L	5.05952	>999.9%
Na 589.592†	58780.9	10780	ug/L	65.5	10780	ug/L	65.5	0.61%
Ni 231.604†	1.3	-0.9840	ug/L	1.04959	-0.9840	ug/L	1.04959	106.67%
Pb 220.353†	-8.3	-10.16	ug/L	6.040	-10.16	ug/L	6.040	59.46%
Sb 206.836†	-0.3	-2.501	ug/L	12.7004	-2.501	ug/L	12.7004	507.83%
Se 196.026†	19.5	211.6	ug/L	58.66	211.6	ug/L	58.66	27.72%
SiO2 251.603†	36085.6	10920	ug/L	98.4	10920	ug/L	98.4	0.90%
Sr 421.552†	Saturated2							
Ti 334.940†	-70.1	-0.332	ug/L	0.0909	-0.332	ug/L	0.0909	27.38%
Tl 190.801†	-0.4	-8.402	ug/L	13.3368	-8.402	ug/L	13.3368	158.73%
V 290.880†	-4.3	-3.977	ug/L	0.6640	-3.977	ug/L	0.6640	16.69%
Zn 206.200†	611.7	580.3	ug/L	6.54	580.3	ug/L	6.54	1.13%

Sequence No.: 30
Sample ID: C101104-36
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 44
Date Collected: 11/29/2010 9:10:48 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-36

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-36

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc Axial	2466457.0	100.6	%	0.91				0.90%
Sc Radial	306512.6	102.3	%	0.23				0.23%
Ag 328.068†	-2.0	0.7358	ug/L	0.48957	0.7358	ug/L	0.48957	66.54%
Al 396.153†	132.8	13.09	ug/L	2.729	13.09	ug/L	2.729	20.84%
As 193.696†	-10.4	-106.3	ug/L	41.45	-106.3	ug/L	41.45	38.98%
Ba 233.527†	683.2	56.21	ug/L	0.506	56.21	ug/L	0.506	0.90%
Be 313.107†	-8.7	-0.1481	ug/L	0.05141	-0.1481	ug/L	0.05141	34.72%
B 249.677†	-162.2	-24.90	ug/L	0.363	-24.90	ug/L	0.363	1.46%
Ca 317.933†	193720.0	67210	ug/L	68.0	67210	ug/L	68.0	0.10%
Cd 214.440†	0.3	0.1306	ug/L	0.14322	0.1306	ug/L	0.14322	109.67%
Co 228.616†	4.2	1.219	ug/L	0.6480	1.219	ug/L	0.6480	53.14%
Cr 267.716†	-5.1	-0.0459	ug/L	0.55167	-0.0459	ug/L	0.55167	>999.9%
Cu 324.752†	128.7	1.457	ug/L	0.0814	1.457	ug/L	0.0814	5.59%
Fe 238.204†	5.6	33.18	ug/L	9.896	33.18	ug/L	9.896	29.83%
K 766.490†	1408.1	793.3	ug/L	33.50	793.3	ug/L	33.50	4.22%
Mg 285.213†	51212.5	7975	ug/L	19.0	7975	ug/L	19.0	0.24%
Mn 257.610†	1396.8	9.884	ug/L	0.1009	9.884	ug/L	0.1009	1.02%
Mo 202.031†	3.8	6.808	ug/L	1.0396	6.808	ug/L	1.0396	15.27%
Na 589.592†	12882.6	2357	ug/L	8.8	2357	ug/L	8.8	0.37%
Ni 231.604†	0.1	-0.1393	ug/L	0.84890	-0.1393	ug/L	0.84890	609.38%
Pb 220.353†	-8.3	-17.78	ug/L	13.912	-17.78	ug/L	13.912	78.26%
Sb 206.836†	-0.7	-5.291	ug/L	2.8974	-5.291	ug/L	2.8974	54.76%
Se 196.026†	8.8	100.1	ug/L	13.60	100.1	ug/L	13.60	13.59%
SiO2 251.603†	22564.6	6808	ug/L	69.4	6808	ug/L	69.4	1.02%
Sr 421.552†	561183.5	367.6	ug/L	0.20	367.6	ug/L	0.20	0.05%
Ti 334.940†	-42.6	-0.202	ug/L	0.0305	-0.202	ug/L	0.0305	15.11%
Tl 190.801†	-2.8	-14.73	ug/L	9.395	-14.73	ug/L	9.395	63.80%
V 290.880†	-92.3	-4.980	ug/L	0.7071	-4.980	ug/L	0.7071	14.20%
Zn 206.200†	7.1	6.430	ug/L	1.9939	6.430	ug/L	1.9939	31.01%

Sequence No.: 31
Sample ID: Blank
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 45
Date Collected: 11/29/2010 9:13:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: Blank

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: Blank

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2510515.3	102.4	%	0.57				0.55%
Sc Radial	306409.2	102.2	%	0.79				0.77%
Ag 328.068†	21.4	0.3490	ug/L	0.02228	0.3490	ug/L	0.02228	6.38%
Al 396.153†	43.6	9.228	ug/L	2.9456	9.228	ug/L	2.9456	31.92%
As 193.696†	0.1	0.8155	ug/L	20.74079	0.8155	ug/L	20.74079	>999.9%
Ba 233.527†	3.8	0.3057	ug/L	0.15660	0.3057	ug/L	0.15660	51.23%
Be 313.107†	4.7	0.0165	ug/L	0.00794	0.0165	ug/L	0.00794	48.01%
B 249.677†	122.9	18.88	ug/L	0.253	18.88	ug/L	0.253	1.34%
Ca 317.933†	34.6	11.97	ug/L	2.424	11.97	ug/L	2.424	20.26%
Cd 214.440†	0.6	0:1864	ug/L	0.23949	0.1864	ug/L	0.23949	128.45%
Co 228.616†	0.5	0.1117	ug/L	0.21449	0.1117	ug/L	0.21449	191.96%
Cr 267.716†	-0.9	-0.1485	ug/L	0.19928	-0.1485	ug/L	0.19928	134.21%
Cu 324.752†	88.8	0.9292	ug/L	0.36043	0.9292	ug/L	0.36043	38.79%
Fe 238.204†	1.9	13.37	ug/L	5.067	13.37	ug/L	5.067	37.89%
K 766.490†	64.6	38.18	ug/L	15.383	38.18	ug/L	15.383	40.29%
Mg 285.213†	4.5	0.6886	ug/L	0.30201	0.6886	ug/L	0.30201	43.86%
Mn 257.610†	-12.9	-0.0960	ug/L	0.06615	-0.0960	ug/L	0.06615	68.91%
Mo 202.031†	-0.6	-1.191	ug/L	0.7883	-1.191	ug/L	0.7883	66.20%
Na 589.592†	103.5	19.05	ug/L	1.192	19.05	ug/L	1.192	6.26%
Ni 231.604†	1.1	0.6068	ug/L	0.32760	0.6068	ug/L	0.32760	53.99%
Pb 220.353†	-2.6	-5.924	ug/L	5.2669	-5.924	ug/L	5.2669	88.91%
Sb 206.836†	-1.3	-4.913	ug/L	17.9038	-4.913	ug/L	17.9038	364.40%
Se 196.026†	0.6	6.632	ug/L	28.1217	6.632	ug/L	28.1217	424.00%
SiO2 251.603†	1189.7	359.0	ug/L	2.19	359.0	ug/L	2.19	0.61%
Sr 421.552†	80.8	0.053	ug/L	0.0092	0.053	ug/L	0.0092	17.41%
Ti 334.940†	19.4	0.092	ug/L	0.0038	0.092	ug/L	0.0038	4.14%
Tl 190.801†	-0.5	-2.076	ug/L	11.3368	-2.076	ug/L	11.3368	546.09%
V 290.880†	-127.7	-4.526	ug/L	0.2137	-4.526	ug/L	0.2137	4.72%
Zn 206.200†	0.7	0.622	ug/L	0.3655	0.622	ug/L	0.3655	58.75%

Sequence No.: 32
Sample ID: SEQ-CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 11/29/2010 9:16:57 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-CCV

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc Axial	2484150.1	101.4	%	0.55				0.54%
Sc Radial	313395.7	104.6	%	0.90				0.86%
Ag 328.068†	15711.8	259.7	ug/L	3.23	259.7	ug/L	3.23	1.24%
QC value within limits for Ag 328.068 Recovery = 103.87%								
Al 396.153†	59315.6	12730	ug/L	65.2	12730	ug/L	65.2	0.51%
QC value within limits for Al 396.153 Recovery = 101.84%								
As 193.696†	247.1	2527	ug/L	16.3	2527	ug/L	16.3	0.64%
QC value within limits for As 193.696 Recovery = 101.06%								
Ba 233.527†	6120.5	508.6	ug/L	7.12	508.6	ug/L	7.12	1.40%
QC value within limits for Ba 233.527 Recovery = 101.72%								
Be 313.107†	143355.9	522.9	ug/L	1.83	522.9	ug/L	1.83	0.35%
QC value within limits for Be 313.107 Recovery = 104.58%								
B 249.677†	33156.2	5091	ug/L	65.1	5091	ug/L	65.1	1.28%
QC value within limits for B 249.677 Recovery = 101.83%								
Ca 317.933†	36948.4	12760	ug/L	44.5	12760	ug/L	44.5	0.35%
QC value within limits for Ca 317.933 Recovery = 102.07%								
Cd 214.440†	1674.2	511.1	ug/L	2.08	511.1	ug/L	2.08	0.41%
QC value within limits for Cd 214.440 Recovery = 102.22%								
Co 228.616†	2192.0	515.9	ug/L	2.85	515.9	ug/L	2.85	0.55%
QC value within limits for Co 228.616 Recovery = 103.18%								
Cr 267.716†	15618.2	2476	ug/L	36.0	2476	ug/L	36.0	1.45%
QC value within limits for Cr 267.716 Recovery = 99.05%								
Cu 324.752†	99278.4	1036	ug/L	1.3	1036	ug/L	1.3	0.13%
QC value within limits for Cu 324.752 Recovery = 103.56%								
Fe 238.204†	1765.4	12570	ug/L	100.0	12570	ug/L	100.0	0.80%
QC value within limits for Fe 238.204 Recovery = 100.59%								
K 766.490†	44675.4	25240	ug/L	79.1	25240	ug/L	79.1	0.31%
QC value within limits for K 766.490 Recovery = 100.97%								
Mg 285.213†	82283.6	12810	ug/L	58.7	12810	ug/L	58.7	0.46%
QC value within limits for Mg 285.213 Recovery = 102.47%								
Mn 257.610†	140911.1	1028	ug/L	12.5	1028	ug/L	12.5	1.22%
QC value within limits for Mn 257.610 Recovery = 102.75%								
Mo 202.031†	252.3	511.4	ug/L	9.39	511.4	ug/L	9.39	1.84%
QC value within limits for Mo 202.031 Recovery = 102.29%								
Na 589.592†	69981.1	12740	ug/L	59.5	12740	ug/L	59.5	0.47%
QC value within limits for Na 589.592 Recovery = 101.95%								
Ni 231.604†	4528.7	2510	ug/L	5.4	2510	ug/L	5.4	0.22%
QC value within limits for Ni 231.604 Recovery = 100.40%								
Pb 220.353†	1143.8	2576	ug/L	18.6	2576	ug/L	18.6	0.72%
QC value within limits for Pb 220.353 Recovery = 103.04%								
Sb 206.836†	648.5	2466	ug/L	52.3	2466	ug/L	52.3	2.12%
QC value within limits for Sb 206.836 Recovery = 98.65%								
Se 196.026†	220.0	2597	ug/L	6.8	2597	ug/L	6.8	0.26%
QC value within limits for Se 196.026 Recovery = 103.88%								
SiO2 251.603†	33730.3	10160	ug/L	106.0	10160	ug/L	106.0	1.04%
QC value within limits for SiO2 251.603 Recovery = 101.61%								
Sr 421.552†	812897.8	532.5	ug/L	0.95	532.5	ug/L	0.95	0.18%
QC value within limits for Sr 421.552 Recovery = 106.50%								
Ti 334.940†	107328.5	507.7	ug/L	1.43	507.7	ug/L	1.43	0.28%
QC value within limits for Ti 334.940 Recovery = 101.54%								
Tl 190.801†	635.3	2598	ug/L	16.4	2598	ug/L	16.4	0.63%
QC value within limits for Tl 190.801 Recovery = 103.91%								
V 290.880†	28365.7	1000	ug/L	14.3	1000	ug/L	14.3	1.43%
QC value within limits for V 290.880 Recovery = 100.01%								

Zn 206.200†	2718.1	2562 ug/L	16.6	2562 ug/L	16.6	0.65%

QC value within limits for Zn 206.200 Recovery = 102.49%

All analyte(s) passed QC.

Sequence No.: 33
Sample ID: SEQ-CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 11/29/2010 9:20:03 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: SEQ-CCB

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: SEQ-CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc Axial	2482801.4	101.3	%	0.32				0.32%
Sc Radial	307997.4	102.8	%	0.28				0.27%
Ag 328.068†	22.1	0.3642	ug/L	0.25975	0.3642	ug/L	0.25975	71.32%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	3.5	0.5598	ug/L	3.40445	0.5598	ug/L	3.40445	608.10%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 193.696†	-1.2	-11.92	ug/L	17.155	-11.92	ug/L	17.155	143.90%
QC value within limits for As 193.696 Recovery = Not calculated								
Ba 233.527†	2.4	0.1757	ug/L	0.09086	0.1757	ug/L	0.09086	51.73%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	5.9	0.0203	ug/L	0.07846	0.0203	ug/L	0.07846	387.42%
QC value within limits for Be 313.107 Recovery = Not calculated								
B 249.677†	289.3	44.42	ug/L	3.903	44.42	ug/L	3.903	8.79%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 317.933†	6.5	2.123	ug/L	0.4201	2.123	ug/L	0.4201	19.79%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 214.440†	1.7	0.5261	ug/L	0.37076	0.5261	ug/L	0.37076	70.48%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-3.2	-0.7596	ug/L	0.92721	-0.7596	ug/L	0.92721	122.06%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	1.2	0.1902	ug/L	0.55127	0.1902	ug/L	0.55127	289.89%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 324.752†	115.3	1.206	ug/L	0.1170	1.206	ug/L	0.1170	9.69%
QC value within limits for Cu 324.752 Recovery = Not calculated								
Fe 238.204†	2.4	17.42	ug/L	8.542	17.42	ug/L	8.542	49.04%
QC value within limits for Fe 238.204 Recovery = Not calculated								
K 766.490†	72.4	40.26	ug/L	14.072	40.26	ug/L	14.072	34.95%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	8.7	1.305	ug/L	1.0189	1.305	ug/L	1.0189	78.08%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	15.1	0.1053	ug/L	0.04477	0.1053	ug/L	0.04477	42.51%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	2.7	5.527	ug/L	1.0070	5.527	ug/L	1.0070	18.22%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	11.0	1.783	ug/L	2.6551	1.783	ug/L	2.6551	148.94%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-0.7	-0.3594	ug/L	0.45384	-0.3594	ug/L	0.45384	126.27%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	0.9	2.065	ug/L	1.7342	2.065	ug/L	1.7342	83.97%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	11.2	43.27	ug/L	4.254	43.27	ug/L	4.254	9.83%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.9	10.77	ug/L	12.690	10.77	ug/L	12.690	117.79%
QC value within limits for Se 196.026 Recovery = Not calculated								
SiO2 251.603†	9.7	2.990	ug/L	1.9741	2.990	ug/L	1.9741	66.01%
QC value within limits for SiO2 251.603 Recovery = Not calculated								
Sr 421.552†	71.7	0.047	ug/L	0.0052	0.047	ug/L	0.0052	11.02%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 334.940†	62.5	0.296	ug/L	0.0308	0.296	ug/L	0.0308	10.41%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	1.1	4.480	ug/L	10.7728	4.480	ug/L	10.7728	240.46%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	-104.2	-3.665	ug/L	0.5489	-3.665	ug/L	0.5489	14.98%
QC value within limits for V 290.880 Recovery = Not calculated								

Zn 206.200†	0.6	0.560 ug/L	1.1158	0.560 ug/L	1.1158	199.29%

QC value within limits for Zn 206.200 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 34
Sample ID: C101104-39
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 11/29/2010 9:23:06 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-39

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-39

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2457038.2	100.3	%	0.69				0.69%
Sc Radial	308236.7	102.8	%	0.30				0.29%
Ag 328.068†	-7.7	0.6251	ug/L	0.29626	0.6251	ug/L	0.29626	47.39%
Al 396.153†	124.1	12.78	ug/L	4.028	12.78	ug/L	4.028	31.51%
As 193.696†	-8.5	-87.93	ug/L	20.398	-87.93	ug/L	20.398	23.20%
Ba 233.527†	706.9	58.24	ug/L	0.647	58.24	ug/L	0.647	1.11%
Be 313.107†	-12.4	-0.1542	ug/L	0.02012	-0.1542	ug/L	0.02012	13.05%
B 249.677†	-52.9	-8.125	ug/L	0.8874	-8.125	ug/L	0.8874	10.92%
Ca 317.933†	178181.5	61820	ug/L	119.5	61820	ug/L	119.5	0.19%
Cd 214.440†	1.2	0.4011	ug/L	0.13881	0.4011	ug/L	0.13881	34.61%
Co 228.616†	2.0	0.6937	ug/L	1.00068	0.6937	ug/L	1.00068	144.25%
Cr 267.716†	-3.4	0.1950	ug/L	0.40862	0.1950	ug/L	0.40862	209.52%
Cu 324.752†	150.8	1.696	ug/L	0.1872	1.696	ug/L	0.1872	11.04%
Fe 238.204†	3.6	19.26	ug/L	1.174	19.26	ug/L	1.174	6.09%
K 766.490†	1348.4	758.2	ug/L	8.08	758.2	ug/L	8.08	1.07%
Mg 285.213†	48168.5	7501	ug/L	19.1	7501	ug/L	19.1	0.26%
Mn 257.610†	842.9	5.854	ug/L	0.0996	5.854	ug/L	0.0996	1.70%
Mo 202.031†	4.6	8.515	ug/L	2.0989	8.515	ug/L	2.0989	24.65%
Na 589.592†	12971.5	2374	ug/L	6.5	2374	ug/L	6.5	0.27%
Ni 231.604†	-0.7	-0.5673	ug/L	0.39511	-0.5673	ug/L	0.39511	69.64%
Pb 220.353†	-6.8	-14.45	ug/L	15.762	-14.45	ug/L	15.762	109.08%
Sb 206.836†	0.7	0.3580	ug/L	7.87577	0.3580	ug/L	7.87577	>999.9%
Se 196.026†	8.3	93.69	ug/L	89.308	93.69	ug/L	89.308	95.32%
SiO2 251.603†	21549.7	6501	ug/L	36.8	6501	ug/L	36.8	0.57%
Sr 421.552†	558363.4	365.7	ug/L	0.61	365.7	ug/L	0.61	0.17%
Ti 334.940†	-30.9	-0.146	ug/L	0.0009	-0.146	ug/L	0.0009	0.65%
Tl 190.801†	-1.4	-8.914	ug/L	18.2000	-8.914	ug/L	18.2000	204.17%
V 290.880†	-91.4	-4.855	ug/L	0.9480	-4.855	ug/L	0.9480	19.53%
Zn 206.200†	11.1	10.10	ug/L	0.905	10.10	ug/L	0.905	8.97%

Sequence No.: 35
Sample ID: C101104-42
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 11/29/2010 9:26:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-42

Analyte	Back Pressure	Flow
All	116.0 kPa	0.80 L/min

Mean Data: C101104-42

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2470553.0	100.8	%	0.65				0.65%
Sc Radial	305263.7	101.8	%	0.73				0.72%
Ag 328.068†	7.2	0.8197	ug/L	0.10840	0.8197	ug/L	0.10840	13.22%
Al 396.153†	118.5	12.36	ug/L	2.141	12.36	ug/L	2.141	17.33%
As 193.696†	-8.5	-87.11	ug/L	12.105	-87.11	ug/L	12.105	13.90%
Ba 233.527†	657.8	54.18	ug/L	0.518	54.18	ug/L	0.518	0.96%
Be 313.107†	-4.3	-0.1180	ug/L	0.03207	-0.1180	ug/L	0.03207	27.18%
B 249.677†	-97.6	-14.98	ug/L	1.074	-14.98	ug/L	1.074	7.17%
Ca 317.933†	166955.9	57930	ug/L	101.5	57930	ug/L	101.5	0.18%
Cd 214.440†	-0.9	-0.2387	ug/L	0.42905	-0.2387	ug/L	0.42905	179.74%
Co 228.616†	3.9	1.132	ug/L	0.7406	1.132	ug/L	0.7406	65.40%
Cr 267.716†	-0.2	0.6502	ug/L	0.46015	0.6502	ug/L	0.46015	70.77%
Cu 324.752†	150.6	1.690	ug/L	0.1011	1.690	ug/L	0.1011	5.98%
Fe 238.204†	1.7	6.165	ug/L	20.2141	6.165	ug/L	20.2141	327.90%
K 766.490†	1251.8	705.2	ug/L	12.55	705.2	ug/L	12.55	1.78%
Mg 285.213†	45627.0	7106	ug/L	7.8	7106	ug/L	7.8	0.11%
Mn 257.610†	558.3	3.793	ug/L	0.0638	3.793	ug/L	0.0638	1.68%
Mo 202.031†	3.5	6.343	ug/L	3.1646	6.343	ug/L	3.1646	49.89%
Na 589.592†	12300.1	2251	ug/L	7.1	2251	ug/L	7.1	0.32%
Ni 231.604†	0.5	0.1280	ug/L	1.53321	0.1280	ug/L	1.53321	>999.9%
Pb 220.353†	-5.8	-12.31	ug/L	6.183	-12.31	ug/L	6.183	50.21%
Sb 206.836†	-0.4	-3.977	ug/L	15.9780	-3.977	ug/L	15.9780	401.78%
Se 196.026†	8.1	91.94	ug/L	7.294	91.94	ug/L	7.294	7.93%
SiO2 251.603†	21295.7	6425	ug/L	51.9	6425	ug/L	51.9	0.81%
Sr 421.552†	521992.1	341.9	ug/L	0.56	341.9	ug/L	0.56	0.16%
Ti 334.940†	-36.5	-0.172	ug/L	0.0104	-0.172	ug/L	0.0104	6.05%
Tl 190.801†	-2.8	-14.69	ug/L	8.742	-14.69	ug/L	8.742	59.49%
V 290.880†	-95.7	-4.914	ug/L	0.6231	-4.914	ug/L	0.6231	12.68%
Zn 206.200†	9.1	8.301	ug/L	1.5808	8.301	ug/L	1.5808	19.04%

Sequence No.: 36
Sample ID: C101104-45
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Date Collected: 11/29/2010 9:29:15 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-45

Analyte	Back Pressure	Flow
All	117.0 kPa	0.80 L/min

Mean Data: C101104-45

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2460841.8	100.4	%	0.32				0.31%
Sc Radial	306743.6	102.3	%	0.47				0.46%
Ag 328.068†	-5.6	0.8195	ug/L	0.10558	0.8195	ug/L	0.10558	12.88%
Al 396.153†	144.7	17.71	ug/L	1.189	17.71	ug/L	1.189	6.71%
As 193.696†	-11.0	-113.1	ug/L	18.48	-113.1	ug/L	18.48	16.34%
Ba 233.527†	680.9	55.94	ug/L	0.444	55.94	ug/L	0.444	0.79%
Be 313.107†	-10.7	-0.1608	ug/L	0.04452	-0.1608	ug/L	0.04452	27.68%
B 249.677†	-139.5	-21.42	ug/L	0.748	-21.42	ug/L	0.748	3.49%
Ca 317.933†	193745.3	67220	ug/L	148.0	67220	ug/L	148.0	0.22%
Cd 214.440†	-0.5	-0.1099	ug/L	0.58757	-0.1099	ug/L	0.58757	534.47%
Co 228.616†	4.8	1.376	ug/L	0.3281	1.376	ug/L	0.3281	23.84%
Cr 267.716†	-2.7	0.3770	ug/L	0.40958	0.3770	ug/L	0.40958	108.64%
Cu 324.752†	179.5	2.037	ug/L	0.0680	2.037	ug/L	0.0680	3.34%
Fe 238.204†	7.0	42.60	ug/L	11.253	42.60	ug/L	11.253	26.41%
K 766.490†	1406.6	783.2	ug/L	22.97	783.2	ug/L	22.97	2.93%
Mg 285.213†	51228.5	7978	ug/L	34.9	7978	ug/L	34.9	0.44%
Mn 257.610†	7573.8	54.96	ug/L	0.313	54.96	ug/L	0.313	0.57%
Mo 202.031†	4.7	8.836	ug/L	2.4791	8.836	ug/L	2.4791	28.06%
Na 589.592†	14319.4	2620	ug/L	21.6	2620	ug/L	21.6	0.82%
Ni 231.604†	0.8	0.3026	ug/L	1.34288	0.3026	ug/L	1.34288	443.84%
Pb 220.353†	-9.5	-20.72	ug/L	5.638	-20.72	ug/L	5.638	27.21%
Sb 206.836†	-0.4	-4.274	ug/L	9.2926	-4.274	ug/L	9.2926	217.41%
Se 196.026†	7.9	89.32	ug/L	17.986	89.32	ug/L	17.986	20.14%
SiO2 251.603†	22036.8	6646	ug/L	38.0	6646	ug/L	38.0	0.57%
Sr 421.552†	726174.7	475.7	ug/L	0.80	475.7	ug/L	0.80	0.17%
Ti 334.940†	-43.1	-0.204	ug/L	0.0380	-0.204	ug/L	0.0380	18.64%
Tl 190.801†	-5.4	-25.83	ug/L	9.371	-25.83	ug/L	9.371	36.29%
V 290.880†	-83.2	-4.851	ug/L	0.0098	-4.851	ug/L	0.0098	0.20%
Zn 206.200†	10.7	9.636	ug/L	0.3237	9.636	ug/L	0.3237	3.36%

Sequence No.: 37
Sample ID: C101104-48
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 49
Date Collected: 11/29/2010 9:32:21 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-48

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-48

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2406777.6	98.20	%	0.378				0.39%
Sc Radial	304138.7	101.5	%	0.44				0.43%
Ag 328.068†	-29.8	0.2610	ug/L	0.12669	0.2610	ug/L	0.12669	48.54%
Al 396.153†	432.7	22.72	ug/L	7.673	22.72	ug/L	7.673	33.78%
As 193.696†	-6.7	-71.83	ug/L	35.786	-71.83	ug/L	35.786	49.82%
Ba 233.527†	182.8	13.32	ug/L	0.340	13.32	ug/L	0.340	2.55%
Be 313.107†	-21.9	-0.4090	ug/L	0.07679	-0.4090	ug/L	0.07679	18.78%
B 249.677†	-291.9	-44.82	ug/L	0.421	-44.82	ug/L	0.421	0.94%
Ca 317.933†	664781.3	230700	ug/L	624.8	230700	ug/L	624.8	0.27%
Cd 214.440†	13.9	4.376	ug/L	1.5634	4.376	ug/L	1.5634	35.73%
Co 228.616†	3.8	1.559	ug/L	1.7806	1.559	ug/L	1.7806	114.22%
Cr 267.716†	-7.8	0.7133	ug/L	0.16727	0.7133	ug/L	0.16727	23.45%
Cu 324.752†	191.9	1.574	ug/L	0.1746	1.574	ug/L	0.1746	11.09%
Fe 238.204†	3.4	9.994	ug/L	21.4882	9.994	ug/L	21.4882	215.01%
K 766.490†	2742.0	1588	ug/L	19.6	1588	ug/L	19.6	1.23%
Mg 285.213†	138330.4	21540	ug/L	45.7	21540	ug/L	45.7	0.21%
Mn 257.610†	358.2	1.935	ug/L	0.0423	1.935	ug/L	0.0423	2.19%
Mo 202.031†	5.1	6.364	ug/L	4.5777	6.364	ug/L	4.5777	71.93%
Na 589.592†	57405.0	10530	ug/L	35.0	10530	ug/L	35.0	0.33%
Ni 231.604†	0.5	-1.361	ug/L	1.3409	-1.361	ug/L	1.3409	98.53%
Pb 220.353†	-13.0	-21.10	ug/L	5.368	-21.10	ug/L	5.368	25.44%
Sb 206.836†	-0.3	-2.375	ug/L	5.5627	-2.375	ug/L	5.5627	234.24%
Se 196.026†	17.4	187.6	ug/L	30.13	187.6	ug/L	30.13	16.06%
SiO2 251.603†	35665.4	10790	ug/L	45.1	10790	ug/L	45.1	0.42%
Sr 421.552†	Saturated2							
Ti 334.940†	-60.6	-0.287	ug/L	0.1106	-0.287	ug/L	0.1106	38.58%
Tl 190.801†	-1.5	-12.83	ug/L	12.590	-12.83	ug/L	12.590	98.13%
V 290.880†	-24.3	-4.517	ug/L	0.4754	-4.517	ug/L	0.4754	10.53%
Zn 206.200†	969.5	918.2	ug/L	6.14	918.2	ug/L	6.14	0.67%

Sequence No.: 38
Sample ID: C101104-51
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 50
Date Collected: 11/29/2010 9:36:27 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: C101104-51

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: C101104-51

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2408282.9	98.26	%	0.611				0.62%
Sc Radial	307518.9	102.6	%	0.31				0.30%
Ag 328.068†	-5.0	0.4163	ug/L	0.27957	0.4163	ug/L	0.27957	67.15%
Al 396.153†	863.0	109.9	ug/L	7.51	109.9	ug/L	7.51	6.84%
As 193.696†	-4.0	-42.69	ug/L	44.792	-42.69	ug/L	44.792	104.92%
Ba 233.527†	236.6	17.58	ug/L	0.129	17.58	ug/L	0.129	0.73%
Be 313.107†	130.6	0.1228	ug/L	0.06077	0.1228	ug/L	0.06077	49.50%
B 249.677†	-243.3	-37.36	ug/L	0.625	-37.36	ug/L	0.625	1.67%
Ca 317.933†	695940.9	241500	ug/L	1440.7	241500	ug/L	1440.7	0.60%
Cd 214.440†	56.1	17.27	ug/L	1.063	17.27	ug/L	1.063	6.16%
Co 228.616†	14.7	4.067	ug/L	0.7363	4.067	ug/L	0.7363	18.10%
Cr 267.716†	-8.2	-0.4839	ug/L	0.25201	-0.4839	ug/L	0.25201	52.08%
Cu 324.752†	1794.1	18.41	ug/L	0.167	18.41	ug/L	0.167	0.91%
Fe 238.204†	399.2	2834	ug/L	26.3	2834	ug/L	26.3	0.93%
K 766.490†	3004.7	1751	ug/L	27.1	1751	ug/L	27.1	1.55%
Mg 285.213†	130982.0	20400	ug/L	91.0	20400	ug/L	91.0	0.45%
Mn 257.610†	289637.1	2114	ug/L	2.7	2114	ug/L	2.7	0.13%
Mo 202.031†	4.0	4.232	ug/L	4.9058	4.232	ug/L	4.9058	115.91%
Na 589.592†	60609.7	11120	ug/L	54.8	11120	ug/L	54.8	0.49%
Ni 231.604†	12.3	5.084	ug/L	1.3503	5.084	ug/L	1.3503	26.56%
Pb 220.353†	-12.7	-20.80	ug/L	9.285	-20.80	ug/L	9.285	44.63%
Sb 206.836†	-3.9	-17.56	ug/L	12.268	-17.56	ug/L	12.268	69.87%
Se 196.026†	12.6	128.5	ug/L	45.04	128.5	ug/L	45.04	35.06%
SiO2 251.603†	55261.2	16700	ug/L	134.9	16700	ug/L	134.9	0.81%
Sr 421.552†	Saturated2							
Ti 334.940†	-67.6	-0.320	ug/L	0.0610	-0.320	ug/L	0.0610	19.08%
Tl 190.801†	-1.7	-18.58	ug/L	5.070	-18.58	ug/L	5.070	27.29%
V 290.880†	-10.8	-4.991	ug/L	0.2314	-4.991	ug/L	0.2314	4.64%
Zn 206.200†	3782.2	3576	ug/L	10.1	3576	ug/L	10.1	0.28%

Sequence No.: 39
Sample ID: 1011110-BLK1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 51
Date Collected: 11/29/2010 9:40:32 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011110-BLK1

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: 1011110-BLK1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2461510.6	100.4	%	0.70				0.70%
Sc Radial	305779.0	102.0	%	0.26				0.26%
Ag 328.068†	11.2	0.1876	ug/L	0.16094	0.1876	ug/L	0.16094	85.77%
Al 396.153†	4.5	0.8627	ug/L	0.32655	0.8627	ug/L	0.32655	37.85%
As 193.696†	-1.7	-17.28	ug/L	16.154	-17.28	ug/L	16.154	93.50%
Ba 233.527†	-0.1	-0.0158	ug/L	0.06803	-0.0158	ug/L	0.06803	431.37%
Be 313.107†	-13.7	-0.0502	ug/L	0.02168	-0.0502	ug/L	0.02168	43.24%
B 249.677†	1.7	0.2604	ug/L	0.20551	0.2604	ug/L	0.20551	78.93%
Ca 317.933†	18.2	6.292	ug/L	1.2048	6.292	ug/L	1.2048	19.15%
Cd 214.440†	1.4	0.4344	ug/L	0.36928	0.4344	ug/L	0.36928	85.01%
Co 228.616†	0.3	0.0801	ug/L	0.35490	0.0801	ug/L	0.35490	443.18%
Cr 267.716†	-1.4	-0.2238	ug/L	0.18988	-0.2238	ug/L	0.18988	84.84%
Cu 324.752†	131.5	1.373	ug/L	0.2056	1.373	ug/L	0.2056	14.97%
Fe 238.204†	3.6	25.34	ug/L	27.226	25.34	ug/L	27.226	107.44%
K 766.490†	53.2	30.36	ug/L	19.775	30.36	ug/L	19.775	65.13%
Mg 285.213†	-2.4	-0.3762	ug/L	0.25427	-0.3762	ug/L	0.25427	67.59%
Mn 257.610†	-0.4	-0.0055	ug/L	0.00392	-0.0055	ug/L	0.00392	71.12%
Mo 202.031†	1.5	3.013	ug/L	4.5586	3.013	ug/L	4.5586	151.28%
Na 589.592†	16.1	2.880	ug/L	5.3295	2.880	ug/L	5.3295	185.05%
Ni 231.604†	0.4	0.2480	ug/L	0.55624	0.2480	ug/L	0.55624	224.29%
Pb 220.353†	-0.9	-2.038	ug/L	5.2686	-2.038	ug/L	5.2686	258.57%
Sb 206.836†	0.9	3.521	ug/L	10.6168	3.521	ug/L	10.6168	301.57%
Se 196.026†	2.1	25.20	ug/L	20.186	25.20	ug/L	20.186	80.12%
SiO2 251.603†	-20.0	-5.989	ug/L	1.3464	-5.989	ug/L	1.3464	22.48%
Sr 421.552†	190.6	0.125	ug/L	0.0329	0.125	ug/L	0.0329	26.34%
Ti 334.940†	6.6	0.031	ug/L	0.0101	0.031	ug/L	0.0101	32.38%
Tl 190.801†	-1.7	-7.168	ug/L	10.5085	-7.168	ug/L	10.5085	146.61%
V 290.880†	-92.6	-3.264	ug/L	0.3441	-3.264	ug/L	0.3441	10.54%
Zn 206.200†	1.0	0.913	ug/L	0.7842	0.913	ug/L	0.7842	85.93%

Sequence No.: 40
Sample ID: 1011110-BS1
Analyst: Walker
Initial Sample Wt:
Dilution:

Autosampler Location: 52
Date Collected: 11/29/2010 9:43:37 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1011110-BS1

Analyte	Back Pressure	Flow
All	115.0 kPa	0.80 L/min

Mean Data: 1011110-BS1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc Axial	2487294.4	101.5	%	1.16				1.15%
Sc Radial	308446.0	102.9	%	1.36				1.32%
Ag 328.068†	6097.0	101.0	ug/L	1.93	101.0	ug/L	1.93	1.91%
Al 396.153†	49187.6	10570	ug/L	57.6	10570	ug/L	57.6	0.55%
As 193.696†	7.3	85.64	ug/L	23.649	85.64	ug/L	23.649	27.61%
Ba 233.527†	1202.2	99.47	ug/L	1.563	99.47	ug/L	1.563	1.57%
Be 313.107†	28276.2	103.1	ug/L	1.30	103.1	ug/L	1.30	1.26%
B 249.677†	-75.1	-11.54	ug/L	0.767	-11.54	ug/L	0.767	6.65%
Ca 317.933†	29864.0	10340	ug/L	147.3	10340	ug/L	147.3	1.42%
Cd 214.440†	338.8	103.4	ug/L	1.66	103.4	ug/L	1.66	1.60%
Co 228.616†	428.1	100.7	ug/L	1.88	100.7	ug/L	1.88	1.86%
Cr 267.716†	609.8	97.34	ug/L	1.211	97.34	ug/L	1.211	1.24%
Cu 324.752†	9448.2	98.77	ug/L	1.682	98.77	ug/L	1.682	1.70%
Fe 238.204†	1458.0	10400	ug/L	140.0	10400	ug/L	140.0	1.35%
K 766.490†	18476.7	10440	ug/L	52.8	10440	ug/L	52.8	0.51%
Mg 285.213†	67456.4	10510	ug/L	34.7	10510	ug/L	34.7	0.33%
Mn 257.610†	13769.3	100.1	ug/L	1.00	100.1	ug/L	1.00	1.00%
Mo 202.031†	48.1	98.20	ug/L	0.896	98.20	ug/L	0.896	0.91%
Na 589.592†	57746.1	10580	ug/L	48.4	10580	ug/L	48.4	0.46%
Ni 231.604†	177.5	98.22	ug/L	1.543	98.22	ug/L	1.543	1.57%
Pb 220.353†	42.5	95.05	ug/L	5.502	95.05	ug/L	5.502	5.79%
Sb 206.836†	19.1	70.64	ug/L	12.987	70.64	ug/L	12.987	18.39%
Se 196.026†	44.4	525.5	ug/L	22.69	525.5	ug/L	22.69	4.32%
SiO2 251.603†	34.6	-8.079	ug/L	2.1092	-8.079	ug/L	2.1092	26.11%
Sr 421.552†	839968.0	550.2	ug/L	0.97	550.2	ug/L	0.97	0.18%
Ti 334.940†	-60.2	-0.285	ug/L	0.0276	-0.285	ug/L	0.0276	9.68%
Tl 190.801†	29.4	117.7	ug/L	3.36	117.7	ug/L	3.36	2.86%
V 290.880†	2639.0	90.64	ug/L	2.664	90.64	ug/L	2.664	2.94%
Zn 206.200†	109.3	101.3	ug/L	2.46	101.3	ug/L	2.46	2.43%

Matrix Recovery Check: 1011110-BS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Al 396.153	10100	10570	57.590	ug/L	104.6
Ca 317.933	10110	10340	147.280	ug/L	102.4
Fe 238.204	10130	10400	139.962	ug/L	102.7
K 766.490	10130	10440	52.807	ug/L	103.1
Mg 285.213	10100	10510	34.657	ug/L	104.0
Na 589.592	10100	10580	48.422	ug/L	104.7
Ag 328.068	100.2	101.0	1.933	ug/L	100.8
As 193.696	82.72	85.64	23.649	ug/L	102.9
Ba 233.527	99.98	99.47	1.563	ug/L	99.5
Be 313.107	99.95	103.1	1.299	ug/L	103.2
Cd 214.440	100.4	103.4	1.657	ug/L	103.0
Co 228.616	100.1	100.7	1.877	ug/L	100.6
Cr 267.716	99.78	97.34	1.211	ug/L	97.6
Cu 324.752	101.4	98.77	1.682	ug/L	97.4
Mn 257.610	99.99	100.1	1.001	ug/L	100.1
Mo 202.031	103.0	98.20	0.896	ug/L	95.2
Ni 231.604	100.2	98.22	1.543	ug/L	98.0
Pb 220.353	97.96	95.05	5.502	ug/L	97.1
Sb 206.836	103.5	70.64	12.987	ug/L	67.1
Se 196.026	525.2	525.5	22.690	ug/L	100.1